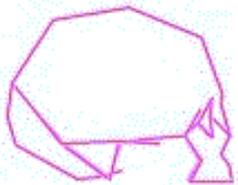
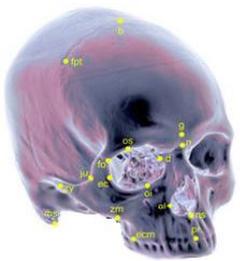
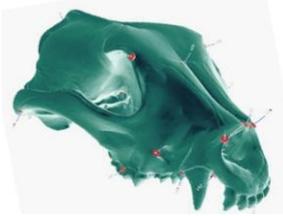


# image analysis of biological form

Andrea Cardini



## RESEARCH TOPICS

I am a **biologist specialized in the study of form variation** in mammals, and other organisms. I use **computerized methods of image analysis** to answer scientific questions related to group differences, and the factors that might produce them, in evolution, taxonomy and biogeography, palaeontology, biomedicine and forensics.

I am also interested in learning, and helping to develop, landmark-based methods of size and shape analysis. This interest has led me to co-organize and **teach in more than 20 international workshops** on shape analysis in Europe, the Middle East and South America.

I am a full time permanent **Researcher** at the University of Modena & Reggio Emilia and an **Adjunct Associate Professor** at The University of Western Australia.

I am currently **cooperating with** scientists in Italy, Germany, England, USA and Australia **on a variety of topics** the exploration of micro- and macroevolutionary patterns in cranial variation across mammals; the use of digital image analysis in taxonomy as an accurate quantitative phenotypic 'counterpart' of molecular analyses in biodiversity studies; the assessment of patterns of asymmetry, as well as sex, age and ancestry in humans.

I have worked on a **range of organisms** such as oak leaves, micro-invertebrates, beetles, sciurids, primates, and recently antelopes, mongooses, fruit bats, pigs, horses and cave bears. In my work on animals, whenever alternatives are available, I am strongly committed to reduce, replace and refine the use of lab animals and their sacrifice for research purposes.

Most of my studies take advantage of large **databases** (images, 3D landmarks etc.) from historical museum collections, and/or image data collected by other scientists, and a vast selection of free **software for statistical shape analysis** available on the internet.

**COOPERATIONS** **Italy:** University of Modena, CNR ('Pallanza'), Milan Natural History Museum. **England:** University of York, Durham University. **Australia:** University of Western Australia, Australian National University. **USA:** Indiana University, Stanford University. **Germany:** University of Greifswald .

**EDITOR** of Zoomorphology, Journal of Zoological Systematics and Evolutionary Research, Hystrix-The Italian Journal of Mammalogy, Frontiers in Evolutionary Developmental Biology.

**REVIEWER** for more than 60 different international journals, and funding bodies in France, Belgium, EU and USA.

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