



Joint LMS/LadHyX Seminar

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From the functional study of bone structures on an evolutionary scale to bioinspiration

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ABSTRACT

The shape and internal structure of bones are strongly implicated in animal movement, and their combined analysis in a comparative approach and evolutionary context makes it possible to characterize form-function links within the skeleton and thus highlight general biomechanical rules that can then be used in bioinspiration in different fields (e.g., architecture, industry, art, medicine, robotics). This presentation will illustrate our (paleo)bioinspired approach to proposing original structures that are both more resistant and more economical in terms of materials.

BIOGRAPHY

A. Houssaye is CNRS research director at the Muséum National d'Histoire Naturelle. She is a specialist in the adaptation of bone to functional constraints, both externally (morphology) and internally (microanatomy). As a paleontologist, she works on form-function relationships on modern forms to propose solid paleoecological inferences and better understand skeletal adaptation. Her projects have focused in particular on postcranial skeletal adaptations in relation to a (semi-)aquatic lifestyle and massive weight-bearing, and she has been developing (paleo)bioinspiration projects for several years.