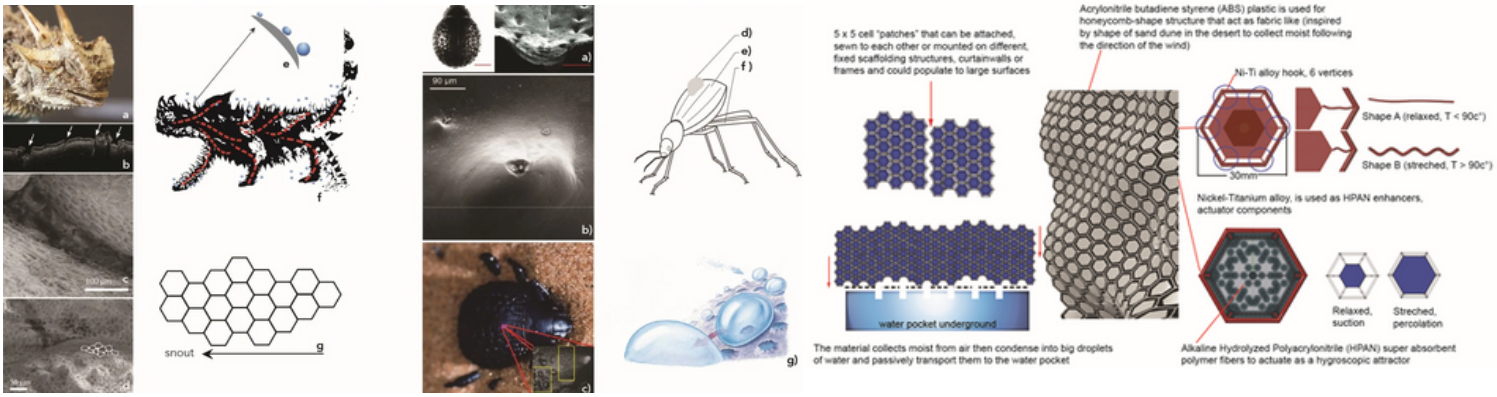

UMR MAP MAACC 3495 CNRS/MC

ENSAPLV

HABITAT

Bioinspired materials

BIOMIMETICS, ARCHITECTURAL DESIGN, ECO-CONCEPTION

APPROACH

In architecture, the boundaries between materials and structures are blurred the same way as in nature. Bio-inspiration in conjunction with new digitally based design and fabrication methods is starting to transform both disciplines, architecture and materials science, towards a fundamentally novel approach. Material systems and structures can now be designed specifically for a purpose and become active elements utilizing material properties to full capacities. As building activities and accordingly energy and material consumption will rise dramatically with the growth of our global population, bio-inspired concepts will bear the key to a more sustainable approach.

RESEARCH

Bio-inspired and Biomimetic materials for sustainable architecture and construction. We realize that nowadays, water shortage is a severe issue all over the world, especially in some arid and undeveloped areas. Interestingly, from a variety of animals' skins properties can collect water from fog, which provide a source of inspiration to develop novel and functional water-collecting materials. Finally, conclusions and outlook concerning the future development of bio-inspired fog-collecting materials are presented.

APPLICATIONS

'Hygro-NET' fog-harvesting material design Hygro-NET is a bio-inspired fog-harvesting material design that abstracts the strategic methods from the desert animals, Thorny dragon and Namib desert beetle, how their skins perform to collect and supply water in arid climate.

Website: https://www.maacc.archi.fr/

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