

## Séminaire

**Mercredi 15** janvier 2025 à 10h30  
Amphithéâtre Henri Benoît et VISIO

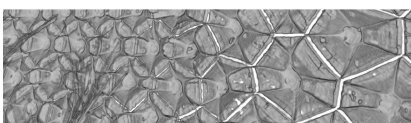
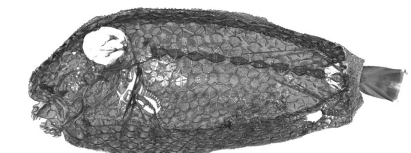
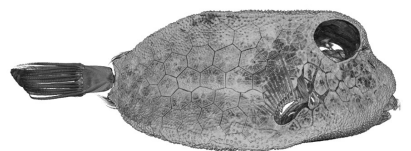
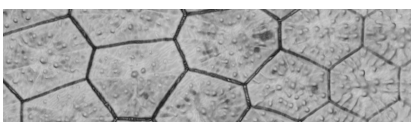
# Mason Dean

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## Multiscale structure-function in animal tissues - from bone to cartilage to skin

Humans are drawn to patterns and hierarchies in Nature, copying them in decoration and architecture (mosaic, roofs, walls). Natural patterns, however, are rarely only aesthetic and, since evolution works to optimize a variety of factors at once, natural structural systems are always multi-

functional. In our group, we combine biology, engineering and design approaches to explore 'form-function' relationships in biological materials, from tissue- to organismal levels. Using a variety of material characterization and imaging approaches, we address development and regulation of animal tissues; how levels of structural hierarchy mediate mechanical properties; and the evolutionary relationships between ecology, anatomy and performance. Our material model systems are equally diverse, from the brilliantly colored skin of stingrays to an oddly acellular fish bone, from the filtering tools of massive oceanic sharks to the curious armored cartilage of sharks and rays. Our results frame form-function spaces for understanding growth and mechanics in natural tissues, while offering inspiration and structural templates for multi-functional, biomimicked composite materials.



Les personnes souhaitant rencontrer M. Dean sont priées de prendre contact avec Wiebke Drenckhan.