

**Mihaela Poienariu, Veturia Chiroiu, *Composite Materials Inspired by Nature***

**Abstract**

Nature provides us with interesting models for structures with a wide range of use. Construction of composite materials is based on nature. We refer to composite materials based on auxetic materials and shape memory alloys.

Fish, for example, is an interesting source of inspiration for architecturing smart composite properties. Fish exemplifies the use of exible materials to generate force during the movement, and the structure and form suggests the use of fins deformation to generate propulsion.

**Keywords:** composite materials, auxetic materials.

**ACM/AMS Classification:** 68U99