

Application of Biomimicry in Textiles

Naimeh Anzabi*

Throughout the millennia, nature has evolved to adapt and develop highly efficient and creative solutions to solve problems. Therefore, human being has always been inspired by nature in order to solve his problems. Although this approach has been for centuries ago, it is recently developed into the areas of science and has been called as “biomimicry”. Biomimicry is now a rapidly growing research field that deals with extraction and imitation of functional principles of nature to achieve the best solutions as well as considering aesthetic and artistic aspects. There are numerous examples of biomimicry in many areas such as engineering sciences, medicine, chemistry, physics and material. Textiles are one of the outstanding fields which have a great potential in the development of biomimicry. This paper provides a general overview of bio inspired textiles in a descriptive analytical method. Hydrophobic and self-cleaning textiles, fast swimming products inspired from shark, self-repairing and thermal insulating textiles are some of related examples. Other famous examples like structurally color textiles which are seen differently due to the view angle, dry adhesion inspired from gecko-feet and producing textiles by means of biological systems, confirm the great potential of research in this area.

Keywords: inspired textiles, biomimicry, nature, functional surfaces.

* Corresponding Author, Faculty Member, Industrial Design Group, Islamic Design Faculty, Tabriz Islamic Art University, Tabriz, Iran. Tel: 09141068063 - +98-41-35297321, Fax: +98-41-3541214, Email: n.anzabi@tabriziau.ac.ir.