

Membrane Templated Photonic Nanostructures

Eric R. Dufresne

*Department of Materials – ericd@ethz.ch
(ETH Zürich, 8092 Zürich, CH)*

Abstract

Insects produce intricate 3-D ordered nanostructures that interact strongly with light to produce color. Scientists have not discovered a process to self-assemble such structures in the lab. *In vivo* observation of the development of these structures reveals that they are templated by the plasma membrane. How does the plasma membrane fold into suction complex 3-D structures? I will describe a combination of *in vivo* observations and *in vitro* experiments with a simple model system that provide some modest insights into this fascinating phenomena.