



UNIVERSITY
OF TRENTO - Italy
Department of Physics

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INRIM – Torino

LENS, Dept. of Physics, Univ. of Florence

2024, November 13 – 2:00 p.m., Room A208 – Polo Ferrari 1

Nature Inspired Intelligent Photonic Materials

Abstract

We will discuss the applications of a new class of photonic materials based on smart polymers that respond to external stimuli.

These materials can change shape and size based on the environmental conditions. Since their photonic properties are also based on their structure, it is possible to create photonic arms and legs with a certain “smart” response. It is for instance possible to create a microscopic hand that recognises particles of certain colours, grabbing them automatically. We will discuss various applications that range from robotics, to biomedical devices and new materials for photonic data storage and security.

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