Dynamic Materials: From Cephalopods to Shapeshifters

Prof. Alon Gorodetsky
Department of Chemical Engineering and Materials Science
Department of Chemistry
University of California, Irvine

Abstract:

Cephalopods (squid, octopuses, and cuttlefish) are known as the chameleons of the sea – these animals can alter their skin's coloration, patterning, and texture to blend into the surrounding environment. These remarkable capabilities are enabled by unique proteins and self-assembled nanostructures found within cephalopod skin. I will discuss our work on new types of photonic and protonic devices fabricated from cephalopod-inspired materials. Our findings hold implications for the next generation of infrared stealth, renewable energy, and bioelectronics technologies.

Biosketch:

Dr. Alon Gorodetsky is an Assistant Professor in the Department of Chemical Engineering and Materials Science at the University of California, Irvine, with a joint appointment in the Department of Chemistry. Dr. Gorodetsky obtained B. S. degrees in Engineering Physics and Materials Science at Cornell University and a PhD in Chemistry at the California Institute of Technology. He subsequently completed postdoctoral work as a NSF American Competitiveness in Chemistry Fellow at Columbia University. His current research is focused on the development of bioinspired materials. His work has been featured in *Popular Science, The Telegraph, Wired, IHS Jane's International Defence Review, NPR Marketplace, CNN, BBC,* and other popular media. Dr. Gorodetsky has also received several awards, including the Samueli Faculty Career Development Fellowship, the Air Force Young Investigator Award, and the Presidential Early Career Award for Scientists and Engineers.