

# BIOENGINEERING

PRESENTS

## Dynamic Materials Inspired By Cephalopods



THURSDAY, NOVEMBER 17, 2016

1:00 – 2:00 PM

2101 ENGINEERING V

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### ABSTRACT:

Cephalopods (squid, octopuses, and cuttlefish) have captivated the imagination of both the general public and scientists for more than a century due to their visually stunning camouflage displays, sophisticated nervous systems, and complex behavioral patterns. Given their unique capabilities and characteristics, it is not surprising that these marine invertebrates have recently emerged as exciting sources of inspiration for the development of unique materials. Within this context, our laboratory has explored the properties of structural proteins known as reflectins, which play crucial roles in the functionality of cephalopod skin. In this talk, I will discuss our work on new types of photonic and protonic devices fabricated from reflectin-derived and reflectin-inspired materials. Our findings hold implications for the development of adaptive camouflage systems, sensitive bioelectronic platforms, and renewable energy technologies.

### BIOGRAPHY:

**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 Ph.D. 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 macromolecular and biomolecular materials inspired by natural systems. 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. For his work, Dr. Gorodetsky has received several awards, including the Samuelli Faculty Career Development Fellowship, the Air Force Young Investigator Award, and the Presidential Early Career Award for Scientists and Engineers.