

Dynamic Materials Inspired by Cephalopods

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Cephalopods, such as the squid shown below in Figure 1, 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 models for novel materials and systems. Within this context, our laboratory has developed various cephalopod-derived and cephalopod-inspired materials with unique functionalities. Our findings hold implications for next-generation adaptive camouflage devices, sensitive bioelectronic platforms, and advanced renewable energy technologies.

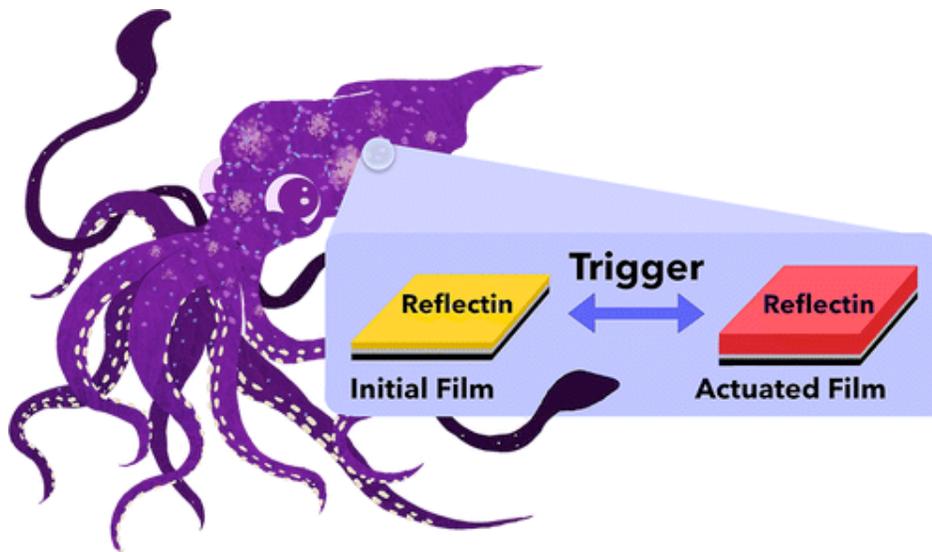


Figure 1: Illustration of a cephalopod, which can serve as inspiration for a stimuli-responsive camouflage device. The image is an artistic rendition of an animal found in nature (see <https://www.youtube.com/watch?v=IEhYJEqmExE>).