

**The Hughes Science Pipeline Project
presents**

Distinguished Women in Science: A Lecture Series

From Darwin to DNA: the genetics of color adaptation

**by
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One of the main goals of our work is to understand how diversity within and between species evolved in the wild. To address the goal, we have been studying camouflaging coloration with a focus on charismatic wild mice. While mice in the southeastern US have typical dark brown coats, mice that have recently colonized Florida's coastal dunes and barrier islands have evolved a unique light color pattern to blend into the brilliant white-sand beaches. In this talk, I will present data—from both the lab and the field—in which we (1) experimentally demonstrate that color matters for survival in the wild, and (2) identify the underlying genetic and developmental process responsible for color variation in these mice. I will end by highlighting how finding the genetic changes responsible for change in this species may (or may not) inform us about color variation in other species, including extinct organisms and humans. Together, this work allows us to retrace the evolutionary path of adaptive change in the wild—from traits to genes—teaching us new lessons about the evolution of diversity along the way.