## **Biology Seminar**

## Speaker: Blair Costelloe, Ph.D.

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## Fear Across Scales: The individual, collective, and community dynamics of antipredator behavior

Wednesday March 13, 2024 | 11:30AM PST | GNOM S060



Animal behavior is a key determinant of individual fitness, but also drives patterns and processes at broader ecological scales. By studying the drivers and diversity of individual behavioral strategies, we can develop a mechanistic understanding of emergent collective behavior, population dynamics,

community structure, and landscape-level ecological processes. In my work, I use the antipredator behavior of African ungulates as a lens to explore the cross-scale ecological impacts of behavior. Predation risk drives diverse behavioral adaptations that affect how prey animals interact with their social, biotic, and abiotic environments. In this talk, I will present my work on individual and collective antipredator behavior in ungulates, as well as my future plans to explore antipredator behavior as a driver of species association patterns. To pursue my research questions, I have led the development of novel drone- and image-based methods for behavioral observation in collaboration with computer scientists and engineers. I will present these advances and introduce WildDrone, an interdisciplinary collaborative network that aims to develop autonomous drone technologies for monitoring and conserving wildlife. By combining multiscale studies of behavioral dynamics with cutting-edge observational methods, I am revolutionizing the way we study animal behavior, and leading the field of behavioral ecology into the era of Big Data.

## Seminar Speaker Host: Carl Bergstrom

