



**DEPARTMENT OF MATHEMATICS**  
**Spring 2024 MATH Colloquium Series**

# **Chaos in the Wild: Unveiling Nature's Dynamic Patterns**

**Dr. Bethany Johnson**  
**Dept. of Mathematics**  
**Cal Poly Humboldt**

In the 1970s, Robert May proposed that population dynamics could be explained by chaos theory, offering a glimpse into the intricate fluctuations of natural ecosystems. Despite decades of research, it is widely believed that ecological chaos is rare, and fluctuations in natural populations are often attributed to stochastic 'noise.' However, the rarity of chaos in complex ecosystems is a mystery, potentially obscured by limitations of traditional models. In this talk, we will embark on a reevaluation of chaos in natural ecosystems, leveraging modern data-driven methodologies and a global database of population dynamics. We will uncover evidence suggesting that chaos may be more prevalent than previously thought, particularly among short-lived taxa. These findings not only challenge existing paradigms in ecology but also have profound implications for ecosystem forecasting and management.

**Mar. 28, 2024**  
**THURSDAY**

**4:00 PM**  
**BSS#166**

**FOR MORE INFO GO TO [HTTPS://MATH.HUMBOLDT.EDU/GET-INVOLVED/MATHEMATICS-COLLOQUIUM](https://math.humboldt.edu/get-involved/mathematics-colloquium)**

**WE CORDIALLY INVITE YOU TO THE PRE-COLLOQUIUM TEA IN BSS#312**  
**AT 3:30 PM**