ST. OLAF COLLEGE

MATH BIO PROGRAM



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SEMINAR

Should I stay or should I go?

Disturbance, fragmentation, and the evolution of dispersal plasticity



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Monday, November 2, 2026 | **4:00–5:00 PM** | **RNS 410** | **Snacks will be available.**

ABSTRACT

Dispersal plasticity can allow organisms to take advantage of unevenly distributed resources by dispersing longer distances from poor habitat and shorter distances from good habitat. This strategy is useful for escaping areas that are intermitently affected by disturbance; however, in fragmented habitat, the risk of dispersing out of habitable area altogether could discourage longer-distance dispersal. We use an evolutionary simulation model to ask when a strategy of dispersal plasticity is useful, and what the alternatives might be.

We consider these questions in general and in the particular case of the anemonefish *Amphiprion percula*. Understanding the dispersal patterns of coral reef fishes like *A. percula* is crucial for designing effective, connected networks of marine reserves. But their habitats are fragmented and increasingly affected by disturbance, so accounting for the potential role of plasticity may be necessary to make accurate predictions about their dispersal.

SPEAKER BIOGRAPHY

Lou is an evolutionary ecologist interested in using quantitative approaches to better understand the natural world. Lou is currently a postdoctoral researcher in the Muthukrishnan Lab at St. Olaf. Lou holds a PhD in marine evolutionary ecology from Boston University, an M.S. in ecology from Colorado State University, and a B.A. in mathematics from Smith College.