

STATISTICS SEMINAR

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Thursday, April 8, 2021

Via Zoom, 4:00-5:00 pm (Central Time)



Title

Movement data reveal dynamic social relationships

Abstract

Satellite-based tracking devices allow researchers to collect increasingly rich data for a wide variety of animals. These data often provide a reasonably inexpensive source of information about the behavior of not just one, but several individuals. Data used to define social connectivity are often expensive to collect and based on case-specific, ad hoc criteria. Moreover, in applications involving animal social networks, collection of these data is often opportunistic and can be invasive. Frequently, social relationships influence the way individuals move. Thus telemetry data, which are minimally-invasive and relatively inexpensive to collect, present an alternative source of information for learning about animal social structure. I describe two recent model-based approaches for inferring dynamic social relationships from movement data and demonstrate the methods using remotely-sensed locations of killer whales and sandhill cranes. I conclude with current and emerging challenges to the analysis of movement data for multiple individuals and some preliminary successes in attempts to address those challenges.