You are invited to attend the presentation of the

# Final MSc Examination
## of
# Jessa Marley

Date            April 1, 2020

Time            9:00 a.m.
Location        CAB 657

"Animal Selection and Movement Analysis: Finding Missed Connections"

In movement ecology, many methods currently exist for analyzing and estimating animal movement patterns and selection for habitat types. However, the accuracy of the estimates for quantifying animal movement and selection are difficult to determine, especially when data is missing. In the literature, there are many techniques for simulating animal movement and determining animal selection, yet they are rarely used in tandem and, instead, simpler methods are favoured. In this study, we use continuous-time animal movement to estimate selection in the presence of missing data. We first determine a model for continuous-time animal movement with influence of the environment on the selection of location as a small time-step limits of a step-selection process. Second, we propose an algorithm that uses the continuous-time model to fill in missing locations, and determines estimates for the movement and selection coefficients. The estimates are compared directly against existing methods for determining the selection coefficients. For data sets with extensive loss of information, the proposed algorithm could provide more accurate estimates for animal selection of environmental characteristics.