Modelação Ecológica

AULA 14

5 November 2019

14:00-15:00 – room 2.2.14 – a seminar on HMMs

15:00-16:30 – room 2.2.37 – a short course on HMMs

Théo Michelot

& Tiago A. Marques

HMMs by Théo Michelot

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Theo Michelot

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University of St Andrews

CREEM
Centre for Research into Ecological and Environmental Modelling

Théo Michelot

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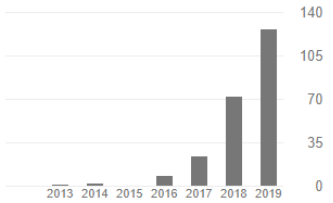
Computational statistics Statistical ecology

TITLE	CITED BY	YEAR
moveHMM: an R package for the statistical modelling of animal movement data using hidden Markov models T Michelot, R Langrock, TA Patterson Methods in Ecology and Evolution 7 (11), 1308-1315	111	2016
Estimation and simulation of foraging trips in land-based marine predators T Michelot, R Langrock, S Bestley, ID Jonsen, T Photopoulou, ... Ecology 98 (7), 1932-1944	29	2017
momentuHMM: R package for generalized hidden Markov models of animal movement BT McClintock, T Michelot Methods in Ecology and Evolution 9 (6), 1518-1530	27	2018
Understanding the ontogeny of foraging behaviour: insights from combining marine predator bio-logging with satellite-derived oceanography in hidden Markov models WJ Grecian, JV Lane, T Michelot, HM Wade, KC Hamer Journal of the Royal Society Interface 15 (143), 20180084	21	2018
Markov-switching generalized additive models R Langrock, T Kneib, R Glennie, T Michelot Statistics and Computing 27 (1), 259-270	16	2017

Cited by

	All	Since 2014
Citations	236	234
h-index	7	6
i10-index	5	5



Co-authors VIEW ALL

- Roland Langrock — Statistics and Data Analysis grou...
- Toby Patterson — CSIRO
- Thomas Kneib — Chair of Statistics, Georg-August...

Théo Michelot

237 Tweets

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Théo Michelot
@TheoMichelot Follows you

Statistician. Post-doc at @CREEM_cake. Working on models of animal movement and habitat selection. Co-author of moveHMM and momentuHMM R packages.

St Andrews, SC theomichelot.github.io Joined June 2016

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Théo Michelot @TheoMichelot · Oct 29
New in Biometrics: Inference for MCMC step selection models. We present a method to jointly estimate animal movement, habitat selection, and space use parameters. With P. Blackwell, @JMatthiopoulos, and @chamaillejammes.

Biometrics
Inference in MCMC step selection models
Habitat selection models are used in ecology to link the spatial distribution of animals to environmental ...
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2 28 55

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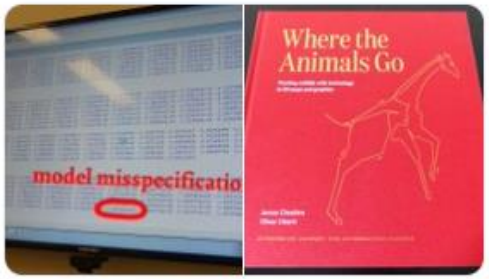
Théo Michelot @TheoMichelot · Oct 29
Very exciting to get my last PhD chapter out! Also, this is the first time I get to cite Einstein in a paper. (He was a good physicist, but a mediocre animal movement modeller, it turns out.)

1 4 27



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Your mission for tomorrow

1. Go to Movebank and explore the Movebank Data Repository
2. Find an open access data
3. Use it to fit an HMM to the movement data
4. Write a report about the analysis you made
    - Briefly describe the data
    - Do a simple EDA
    - Fit movement model
    - Present your conclusions
5. Send me a report by the end of the week (week ends Sunday)

Mission: Impossible
Taking down Movebank
(with a random Modelação Ecológica student)