

## NorMER Course in Advanced Time Series Analysis

Charlottenlund, Denmark, October 2-4

The course aims to provide an overview of statistical methods for analysing ecological time series data. The course features both well-established methods and newer state-of-the-art methods. Combining lectures with hands-on exercises, you should develop an understanding of the similarities and differences between the methods, both conceptually and technically. This will help you choose the right method to apply to your data and provide a starting point for the analysis.

### Programme

#### *Thursday, October 2*

- 9:00- 9:15 Introduction (Uffe Høgsbro Thygesen)
- 9:15- 12:15 GLM's and GAM's. (Casper Berg)
- 13:00- 16:00 Mixed effect models using R og TMB (Kasper Kristensen)
  
- 16:30- ? Poster session with snacks and beverages

#### *Friday, October 3*

- 9:00- 12:00 State space methods for time series (Anders Nielsen)
- 13:00- 14:30 Hidden Markov Models (Martin Wæver Pedersen)
  
- 15:00- 17:00 "Bring your own data"
  
- 18:30- ? Restaurant

#### *Saturday, October 4*

- 9:00- 12:00 Greybox models and stochastic differential equations (Henrik Madsen)
- 12:00- 12:15 Wrap-up (Uffe Høgsbro Thygesen)
- 12:15 Sandwich and farewell

Students should bring a laptop with a working installation of R (<http://www.r-project.org/>). We encourage you to install TMB as well, following the instructions for your operating system available on <https://github.com/kaskr/adcomp> .