

# Time Series Analysis - with a focus on modelling and forecasting in energy systems

## Time schedule

Venue: DTU, Kgs. Lyngby, Copenhagen, Denmark

Date: August 26-30, 2019

Below you find the time schedule. There will be four exercises which will be introduced as we go along and we will sometimes do some short wrap-up of the main points during the exercises.

### **Monday**

08:30 - 09:00 Registration and coffee  
09:00 - 09:30 Welcome  
09:30 - 11:00 Lecture: Introduction to non-linear time series models and non-parametric estimation techniques  
11:00 - 12:30 Exercise on non-parametric models  
12:30 - 13:30 Lunch  
13:30 - 15:00 Exercise  
15:00 - 15:15 Coffee  
15:15 - 17:00 Exercise

### **Tuesday**

09:00 - 11:00 Lecture: Introduction to grey-box modelling  
11:00 - 12:30 Exercise on grey-box modelling  
12:30 - 13:30 Lunch  
13:30 - 14:30 Lecture: Introduction to ctsm-r  
14:30 - 15:00 Exercise  
15:00 - 15:15 Coffee  
15:15 - 17:00 Exercise

### **Wednesday**

09:00 - 10:30 Lecture: Model identification  
10:30 - 12:30 Exercise on grey-box modelling  
12:30 - 13:00 Lunch  
13:00 - 21:15 Excursion (we will be picked up by bus and then with boat sail to [Flakfortet](#))

### **Thursday**

09:00 - 10:30 Lecture: Models for forecasting in energy systems  
10:30 - 12:30 Exercise on models for forecasting  
12:30 - 13:30 Lunch  
13:30 - 14:45 Exercise  
14:45 - 15:00 Coffee  
15:00 - 16:00 Lecture: Use of data-driven modelling in energy systems, with a focus on IEA Annex 67  
16:00 - 17:00 Exercise

### **Friday**

09:00 - 10:30 Lecture: Model predictive control with a focus on energy systems  
10:30 - 12:00 Exercise on model predictive control  
12:00 - 12:45 Lecture: Introduction to stochastic programming  
12:45 - 13:30 Lunch  
13:30 - 15:00 Exercise  
15:00 - 15:30 Coffee and goodbye  
15:30 - 17:00 Exercise