

Identification of Networks of Dynamic Systems

Dates and time

17-10-2022

24-10-2022

31-10-2022

07-11-2022

from 13.45-16.00

Course location

Cursus- en vergadercentrum Domstad, Utrecht

ECTS

3 ECTS if the homework is completed successfully

1 ECTS for auditing the course

Lecturers

Prof. M. Verhaegen, Delft University of Technology

Objective

The goal of this course is to acquire insight in the development of data driven methods to identify large scale networks of dynamical systems. In an identification framework attention is given on the structural element to parametrize these large scale networks and subsequently on how to retrieve these parameters and/or model information from data. To deal with the large scale nature parameter sparsity is a key issue as well as problems to identify local systems in a large scale network only using local information.

Prerequisites

A master's degree in mathematics or engineering with interest in systems and control.

Course materials

Book: M. Verhaegen, Y. Chengpu and B. Siquin, "Data-Driven Identification of Networks of Dynamic Systems", Cambridge University Press 2022.

Homework assignments

The grading is based on 2 take-home exams that will be distributed to the students during the course.