Data-driven Model Identification of Dynamical Systems

1st Spring Doctoral School
Nancy, France
April, 3-6, 2017

http:// springschool.cran.univ-lorraine.fr/

Invited guest Lecturer:

Prof. Lennart Ljung, Linköping University, Sweden
presenting a 2-day course

Scientific co-chairs:

Xavier Bombois   CNRS/Laboratoire Ampère, Lyon
Hugues Garnier   University of Lorraine/CRAN, Nancy
Marion Gilson   University of Lorraine/CRAN, Nancy
Guillaume Mercère   University of Poitiers/LIAS, Poitiers

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Contents and objectives

Dynamic models play a key role in many branches of science. In engineering they have a paramount role in model-based simulation, health monitoring, control and optimization. The accuracy of the models is often crucial to their subsequent use in model-based operations.

Data-driven modeling and statistical parameter estimation are established fields for determining mathematical models of dynamical systems on the basis of measurement data from dedicated experiments. The 4-days Spring School aims at covering fundamentals of data-driven modeling approaches ranging from experiment design, parameter estimation to model validation. A common framework for most existing methods is introduced. The underlying theory and practical applications are presented.

Organization

The school will consist of a series of lectures in the mornings and computer exercises in the afternoon. The 24-hours course is eligible for scientific doctoral modules.

Audience

The Spring School is mainly intended to PhD students and post-doc in automatic control, signal processing and applied mathematics. It is however open to anyone that comes in contact with data-driven modeling and is also open to researchers, scholars and industrial participants. Basic knowledge in signals & systems and automatic control would be useful.

About Nancy

Located in the North-Eastern part of France, Nancy is well-known for its beautiful *Place Stanislas* and the Nancy School, an Art Nouveau movement funded in 1901. Nancy can be easily reached by plane from Luxembourg or Lorraine airport. By train, frequent services stand from Paris (1h30mn by TGV,) or through Lorraine TGV station (+ a 30 mn shuttle).

Important dates *(the number of participants is limited to 24)*

Pre-registration deadline : February 24, 2017
Registration deadline : March 10, 2017
Spring school : April 3-6, 2017

Registration Fees

*Access to lectures, proceedings and 4 lunches plus 4 night accommodation (single room or studio in CROUS University residence)

PhD students or postdocs: **400€**   Academics or CNRS: **600€**   Non academics: **1200€**
* Access to lectures, proceedings and 4 lunches (no accommodation)

PhD students or postdocs: **200€**   Academics or CNRS: **400€**   Non academics: **1000€**
CRAN members (access to lectures and 4 lunches, no accommodation): **100€**

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