ID

VP125_DIP_MAT

Visiting Professor Program
Academic year 2022/2023

TEACHING COMMITMENT: 16 hours

COURSE TITLE

Statistics for stochastic processes

TEACHING PERIOD
2nd term

SCIENTIFIC AREA
Probability and statistics

LANGUAGE USED TO TEACH
English

COURSE SUMMARY
The goal of lectures is to introduce statistical inference for time series taking into account both the theoretical/mathematical aspects and their practical application to data analysis. Time series are considered with the aim to characterize properties, asymptotic behavior, parameter estimations and forecasting, spectral analysis as well as decomposition in trend and seasonal components. Such concepts are applied to the analysis of simulated data or existing databases in order to infer and validate a model supporting the data.

LEARNING OBJECTIVES
At the end of the course, students will have understood how to model time series with focus on forecasting and estimation of the moments, of the spectrum and of the parameters of time series models. Moreover they will know which are the main steps of the analysis of a dataset, and which tools are available to this aim:
- Descriptive statistics, moment and spectrum estimation;
- Formulation of models, parameter estimation, model selection, model verification;
- Forecasting.

TUTORSHIP ACTIVITIES

N/A

LAB ACTIVITIES

N/A

OTHER ACTIVITIES BESIDES THE COURSE

A conference addressed to PhD students and research fellows on advanced topics in statistics for stochastic processes

VISITING PROFESSOR PROFILE

The visiting professor will be an internationally recognized scholar with an established track of high quality research output on international journals on topics coherent with the course contents.

CONTACT PERSON AT THE DEPARTMENT

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