Visiting Professor Program
Academic Year 2024/2025

TEACHING COMMITMENT: 16 hours

COURSE TITLE
Stochastic Processes

TEACHING PERIOD
2nd term

SCIENTIFIC AREA
Probability

LANGUAGE USED TO TEACH
English

COURSE SUMMARY
Continuous time stochastic processes with special emphasis on diffusion processes. The initial part includes the study of Brownian motion and its main properties. The second part presents one-dimensional diffusion processes and their first passage times through boundaries. The course program includes examples of diffusion approximation, examples of real instances modelled through diffusions and basics notions about simulation of diffusions. According with the period of presence in Torino, the visiting will specialize his/her lessons on a different part of the program.

LEARNING OBJECTIVES
Good knowledge of the theory of diffusion processes. The student will learn how to model real instances through diffusion processes, how to study the obtained model and its goodness through the development of modelling skills and using rigorous mathematical tools. The student will learn the main simulation methods with their properties.
Development of software to test algorithms (if there will be enough time).

OTHER ACTIVITIES BEIDES THE COURSE
At least one research seminar of interest for PhD students.

VISITING PROFESSOR PROFILE
The optimal candidate has a strong scientific record, with papers on excellent probabilistic journals. Furthermore, the candidate is expert in teaching advanced probabilistic topics.

CONTACT REFERENT
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