



UNIVERSITÀ DEGLI STUDI DI TORINO

ID

TIC53_DIP_MAT

Visiting Professor Program Academic year 2020/2021

DEPARTMENT OF MATHEMATICS "GIUSEPPE PEANO"

TEACHING COMMITMENT: 16 hours

COURSE TITLE

Simulation and Inference in Population Genetics

TEACHING PERIOD

2nd term

SCIENTIFIC AREA

Mathematics (Probability)

LANGUAGE USED TO TEACH

English

The Degree Course is entirely taught in English

COURSE SUMMARY

The module will introduce population genetics models, cover methods of simulation of data from these models, as well as how to perform inference for key biological and evolutionary parameters, using techniques including importance sampling, MCMC, and Approximate Bayesian Computation (ABC).

LEARNING OBJECTIVES

The students will be familiar with stochastic models suitable to describe population genetics patterns and evolutionary mechanisms, as well as how to simulate from these models and how to perform inference for the involved parameters.

TUTORSHIP ACTIVITIES (IF APPLICABLE)

LAB ACTIVITIES (IF APPLICABLE)

OTHER ACTIVITIES (IF APPLICABLE)

VISITING PROFESSOR PROFILE DESCRIPTION

The visiting professor will have a highly qualified research profile, with verifiable experience through a high level publication record on advanced applied probability and on topics relevant for population genetics and stochastic population dynamics.

CONTACT PERSON AT THE DEPARTMENT

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