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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