Antrea Pavlou

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Education

Université Grenoble Alpes - INRIA Rhone-Alpes
PhD in Systems Biology
Subject: Quantification of bacterial resource allocation in changing environments on the single-cell level.
Abstract here
Supervisors: Dr Hidde de Jong, Dr Hans Geiselmann
11.2018 - 7.2022

University of Edinburgh
MSc in Bioinformatics *with Distinction*
2017 - 2018

Université Grenoble Alpes, Grenoble - France
BSc in Biology (Licence en Biologie) *with 'mention bien'*
2014 - 2017

Experience

BSc Internship
Laboratoire d'écologie alpine (LECA) - Dr Eric Coissac, Grenoble France, January 2017
Subject: Statistical and computational analysis of the chloroplast genome of alpine plants
Skills acquired: Extraction of genomic data, statistical analysis of phylogeny, molecular phylogenetics

MSc Research Project
Practical Systems Biology module (supervised by Dr Peter Swain), November-December 2017
Subject: Simulation of mathematical models of sRNA and their targets
Skills acquired: Use of Python (packages: NumPy, SciPy, StochPy) for modeling ODEs

MSc Dissertation
University of Edinburgh - supervised by Dr Binzhi Qian
Subject: Identification of key immune cell-associated genes in breast cancer metastasis and prediction of outcome using bioinformatic approaches.
Skills acquired: data mining, multivariate statistics (inference, PCA, regression, deconvolution), functional genomic analysis, modeling associated with cancer.

Skills

Programming Languages:
Python, MATLAB, R, Julia, Java, Bash, Awk, SQL

Scientific:
Systems Biology, Microbiology, Biostatistics, Molecular Biology

Computational skills:
Mathematical modeling and simulation, inference methods, image processing

Wet lab skills:
Microbiology and molecular biology techniques (transformation, recombination, PCR, genome engineering), microscopy, microfluidics, ELISA, Western Blot, Agar Electrophoresis

Languages:
Greek (native), English: IELTS 7.5, French: level C1, Spanish: level A2

Teaching

MEP101: Pluridisciplinary experimental methods
L1 Parcours CHI-BIO (First year biology-chemistry students)
Autumn 2019, 28h (TD et TP)
Description: Initiation to experimental methods in biology and biochemistry: titrations, spectrophotometry, chromatography, analysis and interpretation of experimental results.

STA401: Statistics and probabilities
L2 parcours MAT-MIN (Second year mathematics students)
Spring 2020, 20h (TD)
Description: Statistics and probabilities exercises and theory for mathematicians.

STA301: Statistics for biologists
L2 parcours BIO (Second year biology students)
Spring 2021, 100h (TD)
Description: Introductory statistics for biologists.

Papers

Pavlou, Cinquemani, Geiselmann, de Jong, Protein-specific maturation models are necessary to obtain unbiased estimates of promoter activity, *Biophys J*, 2022, https://doi.org/10.1016/j.bpj.2022.09.021

Pavlou *et al*, Single-cell data reveal heterogeneity of ribosomal resource allocation across a bacterial population, *in preparation*.