Universitat Pompeu Fabra Barcelona | Master in Bioinformatics for Health Sciences

Master project 2020-2021

Personal Information

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Project

Computational genomics

Project Title:

Elucidating the rules of genomic scaling: how does the size of DNA regions influence their physiological output?

Keywords:

genomic scaling, rate of living, c-value paradox, longevity

Summary:

Genome sizes exhibit a remarkable variation even among vertebrate animals. This project is assumed to be conducted only with computational solutions and aims at understanding the effect of variable physical spacing between exons and genes in animal genomes, by investigating which portion of the genomes are susceptible to the variation, with an emphasis on genes responsible for physiological controls.

References:

Hara et al. Nat Ecol Evol, 2018 2:1761- (https://www.nature.com/articles/s41559-018-0673-5) and Kowalczyk et al., eLife 2020 9:e51089 (https://elifesciences.org/articles/51089)

Expected skills::

Basic skills of programming, basic knowledge of molecular biology

Possibility of funding::

To be discussed

Possible continuity with PhD: :

To be discussed