Universitat Pompeu Fabra Barcelona

Master in Bioinformatics for Health Sciences

Master project 2021-2022

Personal Information

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Project

Computational systems biology

Project Title:

Image analysis for setting up an anti-Trypanosoma cruzi biological assay

Keywords:

Chagas disease, Trypanosoma cruzi, drug-discovery, image-based assay, image analysis.

Summary:

Chagas disease is a neglected infectious disease caused by the protozoan Trypanosoma cruzi (T. cruzi). It exerts its highets burden in Latin America where there are over 6 million people infected. Drug discovery for Chagas disease is an urgent medical need given the variable efficacy and frequent side effects associated with current treatments. With the aim to further qualify a battery of selected compounds with specific anti-T. cruzi activity we are developing an image-based high content assay. With it, we want to envisage the potential targets of the compounds, providing them with a very valuable information towards their further development as drugs.

References:

https://pubmed.ncbi.nlm.nih.gov/33445756/ https://pubmed.ncbi.nlm.nih.gov/32635780/ https://pubmed.ncbi.nlm.nih.gov/25615687/

Expected skills::

Database analysis, image parameters analysis, team working spirit, willingness to learn.

Possibility of funding::

No

Possible continuity with PhD: :

To be discussed

Comments:

Participation in other research lines related to computational biology currently ongoing in the lab could be discussed, like the design of epitope-based biomedical

interventions or the datamining of RNAseq databases for the identification of potential trypanosomaviruses.