

## Master project 2020-2021

### Personal Information

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### Project

## Computational genomics

#### Project Title:

Refactoring Viral Metagenomic Pipelines

#### Keywords:

metagenomics, sequence analysis, kmer frequencies, taxonomy annotation pipelines

#### Summary:

In collaboration with the VirCont research lab, we have already developed a number of analysis procedures for the characterization of viral species found from high-throughput sequencing experiments of complex samples, as well as the diversity parameters from environmental samples. We want to integrate those into a semi-automatic/fully-automatic pipeline to perform the whole process, from data-gathering to the generation of summary reports. We will try to extend the current analyses with k-mer based approaches, as well as more efficient ways to assign species by fast homology-based approaches.

#### References:

Natalia Timoneda PhD Thesis: <https://compngen.bio.ub.edu/dl2650>

#### Expected skills::

Student should master Unix/bash, python/perl/C, R, SQL, web apps (HTML/CSS/shiny/django)..

#### Possibility of funding::

To be discussed

#### Possible continuity with PhD: :

To be discussed

**Comments:**

If applicant is interested in doing a PhD, there is the possibility to apply for a Generalitat FI or Ministerio FPU PhD grants on the next announcement.

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