Ferran Cardoso Rodriguez

Curriculum Vitae

Outputs

Publication **Sufi and Qin et al., 2021**
Multiplexed single-cell analysis of organoid signaling networks
DOI: Nature Protocols

Software **TAPE-Lab/CyGNAL**
CyTOF Signalling Analysis (CyGNAL) pipeline
DOI: Zenodo

Poster **Cardoso et al., 2021**
Novel computational approaches to study CRC tumour microenvironment organoids using scRNA-seq
DOI: figshare

Experience

September 2019 – present

UCL, PhD Thesis
Single-cell organoid analysis –(Misc.)

Using novel computational approaches to study CRC tumour microenvironment organoids through single-cell technologies.

Imperial
MSc computational projects

Imperial, MSc Project 3 Jun. – Sept. 2019
AnnoRE pipeline –(Python/R)
Built a bioinformatics pipeline for downstream annotation of genetic variants and metabolomics high-throughput data to study complex trait diseases. Project repository

Imperial, MSc Project 2 Apr. – Jun. 2019
scRNAseq data analysis –(R)
Analysis of single-cell transcriptomic datasets to characterise cardiac development via unsupervised clustering. Web report

Imperial, MSc Project 1 Jan. – Apr. 2019
FBA app back-end –(Python)
Group project developing MetEOr, an online tool for visualising and performing Flux Balance Analysis on whole-organism metabolic models. Project repository

UB
BSc wet-lab placements

UB-QMUL, BSc Thesis (Erasmus) Feb. – Sept. 2018
BSc Thesis on inflammation and craniopharyngiomas at Dr. Gaston-Massuet's group.

UB-IBEC, visiting student Jun. – Sept. 2017
Contributed to Dr. Montserrat's group investigating iPSCs for organ regeneration.

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Education

2019 – present **Bioinformatics PhD Student**
University College London
4 year PhD programme at Dr. Chris Tape's Cell Communication Lab (UCL Cancer Institute).

2018 – 2019 **MSc in Bioinformatics and Theoretical Systems Biology**
Imperial College London
Multi-project programme.

2014 – 2018 **BSc in Biotechnology**
Universitat de Barcelona
Erasmus at WHRI (QMUL).

Communication skills

English **Cambridge English: Proficiency**
CEFR Level C2 (2016)

French **DELF: B1**
CEFR Level B1 (2012)

Catalan **Native speaker**

Spanish **Native speaker**

Technical skills

General Python and R for general coding, data analysis, and visualisation. Remote computing through bash in HPCs. Experience with LaTeX, (R)Markdown, HTML and JavaScript libraries.

Data analysis BCL to FASTQ generation. Custom transcriptome reference generation and FASTQ alignment. Dimensionality Reduction and Clustering. Dif. Expression and Abundance. Cell-cell Communication. RNA Velocity, cell Dynamics and Trajectories. Automated Cell-state Classification.

Development Version control and collaboration through *git*. Multi-language tool design, implementation, and deployment through Docker. Reports as static HTML, interactive shinyApps, JupyterNotebooks, and RNotebooks.