

ADRIÀ MITJAVILA VENTURA

MSc | Bioinformatician at *Institut Josep Carreras*

Biotechnologist with training in Molecular Genetics and Bioinformatics. Interested in omics data analysis to study the mechanisms of gene regulation in mammals. See more about me on [my website](#).



EXPERIENCE

11/2022
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Present

PhD student

Institut Germans Trias i Pujol & Institut Josep Carreras

📍 Badalona, Spain

Group of Regulatory Genomics (Dr. Tanya Vavouri)

Study of the role of transposable elements in the evolution of gene regulation in mammals.

08/2021
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11/2022

Bioinformatician & master's thesis student

Institut Josep Carreras

📍 Badalona, Spain

Group of Regulatory Genomics (Dr. Tanya Vavouri)

Study of Piwi-interacting RNAs (piRNAs), their biogenesis mechanisms and their conservation across species.

- Analysis and integration of small RNA-seq, RNA-seq and genomic data.
- Development of a method for differential expression without gene length differences when using multiple species.
- Mentoring of bachelor's and master's thesis students.
- Master's thesis (UOC): *Analysis of the variation in piRNA expression across three Mus species*.

07/2019
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07/2021

Bioinformatician

Istituto Europeo di Oncologia

📍 Milan, Italy

Group of Epigenetic Mechanisms in Cancer (Dr. Diego Pasini)

Study of Wnt/ β catenin signaling pathway -and others- and its effects in transcription and epigenetic modifications in the context of colorectal cancer and stem cell development.

- Analysis and integration of omics data (RNA-/ChIP-/ATAC-seq).
- Comparison of different ATAC-seq peak callers.
- Comparison of different sequencing depths for RNA-seq and their influence in differential expression analysis.

09/2017
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10/2018

Master's thesis student & Research assistant

Instituto de Biomedicina de Sevilla

📍 Seville, Spain

Group of Gene Expression (Dr. Sebastián Chávez)

Study of Xrn1 and Ccr4 roles in yeast nucleosome architecture and gene transcription.

- Analysis of MNase-seq data from Xrn1-, Ccr4-mutant and WT yeast strains.
- Perform MNase-qPCR experiments, including MNase DNA digestion, primer desing, qPCRs and analysis.
- Master's thesis (US): *Influence of Xrn1 in nucleosome positioning [...] and its effects in transcription*.

07/2017
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09/2017

Internship student

Institut d'Investigació Biomèdica de Girona

📍 Girona, Spain

Unit of Diabetes, Endocrinology and Nutrition

Extracurricular internship. Identification of novel factors (genetic and bacterial) related to adipose tissue physiology and obesity.

- RNA extraction from mouse hepatic biopsies.
- DNA extraction from human feces to study the composition of the microbiota.

CONTACT

🏠 Girona (Spain)

@ adria.mitjavila94@gmail.com

🌐 amitjavilaventura.github.io

🔗 [/amitjavilaventura](https://github.com/amitjavilaventura)

🆔 0000-0002-0337-1929

📄 [1-page resume](#)

🏆 [Sports CV](#)

SKILLS

Bioinformatics:

Microarray, (small) RNA-seq, ChIP-seq, ATAC-seq, MNase-seq, UCSC Genome Browser, IGV

Informatics:

R/Bioconductor, RMarkdown, Shiny, Bash, Snakemake, Python, Git, HPC (PBS & Slurm), Conda, Docker, Singularity, Linux (Ubuntu),

Experimental:

(q)PCR, electrophoresis, molecular cloning, Western blot, MNase-digestion, bacterial/yeast culture

Languages:

Catalan (Native), Spanish (Bilingual), English (IELTS 7.5 - C1), Italian (Basic)

References available upon request.
Build with [pagedown](#), code [here](#).
Last updated on 2022-10-24.

09/2016
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06/2017

Internship & bachelor's thesis student

Microbial. Sistemes i aplicacions analítiques, S.L.

📍 Girona, Spain

Microbiological and molecular analyses of food and water for pathogen detection and food forensics | Study of butyrate effects on the ileal microbiota of colectomized colorectal cancer patients.

- DNA extraction of intestinal mucosa biopsies.
- (q)PCR experiments to detect clusters and families of bacteria.
- NGS data analysis to quantify bacterial genera in intestinal biopsies.
- Bachelor's thesis (UdG): *Butyrate-induced changes in the [...] microbiota in colorectal cancer patients [...]*.



EDUCATION

2022
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Present

PhD in Bioinformatics

Universitat Autònoma de Barcelona (UAB)

📍 Barcelona, Spain

- INPhINIT Incoming PhD Fellowship from LaCaixa.
- Research carried out at Regulatory Genomics group of the [Institut Josep Carreras \(IJC\)](#).

2018
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2022

MSc in Bioinformatics and Biostatistics

Universitat Oberta de Catalunya (UOC)

📍 Online

- Focused on Computational Genomics.
- Master's thesis: *Analysis of the variation in piRNA expression across three close related Mus species*. Grade: 9.7/10 (*with honours*). Supervisor: Dr. Tanya Vavouri
- Overall grade: 8.94/10.

2017
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2018

MSc in Molecular Genetics and Biotechnology

Universidad de Sevilla (US)

📍 Seville, Spain

- Specialization in Molecular Biology Research.
- Master's thesis: *Influence of Xrn1 in nucleosome positioning across Saccharomyces cerevisiae genome and its effects in transcription*. Grade: 9.2/10. Supervisors: Dr. Sebastián Chávez de Diego & Dr. Gabriel Gutiérrez Pozo.
- Overall grade: 9.33/10.

2012
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2017

BSc in Biotechnology

Universitat de Girona (UdG)

📍 Girona, Spain

- Specialization in Cellular & Molecular Biotechnology.
- Bachelor's thesis: *Butyrate-induced changes in the diversity of intestinal mucosa-associated microbiota in colorectal cancer patients submitted to a lateral ileostomy*. Grade: 9.4/10. Supervisor: Prof. Jesús García-Gil
- Overall grade: 8.12/10.



PUBLICATIONS

Begley *et al.* Xrn1 influence on gene transcription results from the combination of general effects on elongating RNA pol II and gene-specific chromatin configuration. *RNA Biology*. 2021. doi: [10.1080/15476286.2020.1845504](https://doi.org/10.1080/15476286.2020.1845504)



POSTERS & PRESENTATIONS

[Mitjavila](#) & Vavouri. **Analysis of piRNA variation across three Mus species (in Catalan)**. Oral presentation at the *Jornades de Biologia de la Reproducció* from the Catalan Society of Biology (March 2022)

DEVELOPMENT

plotmics: visualization of omics and sequencing data in R.

ggmitji: complements and customization for ggplots.

chromHMMviewR: visualization of ChromHMM outputs in R.

MYomics: shiny app to visualize omics data (*ongoing*).

More on my [GitHub profile](#).

ORGANIZATIONS

SCB (2018 - Present)

ASBTEC (2017 - Present)

HONORS & AWARDS

INPhINIT Incoming PhD Fellowship (LaCaixa, 2022-2025)

Master's thesis, with honours (UOC, 2022)

SEMM PhD Fellowship (SEMM, 2019-declined)

Elite athlete (BOE, 2015-2021)

World Rowing U23 Champion (FISA, 2016)