

Adrià Mitjavila Ventura

Bioinformatician

🏠 Girona (Spain) ✉ adria.mitjavila94@gmail.com
 👤 [amtjavilaventura.github.io](https://github.com/amtjavilaventura) 🌐 [amtjavilaventura](https://www.linkedin.com/company/amtjavilaventura)

Biotechnologist with training in Molecular Genetics and Bioinformatics. Interested in omics data analysis to study the mechanisms of gene regulation in mammals.

Education

MSc. Bioinformatics and Biostatistics, *Universitat Oberta de Catalunya (UOC)*, Online 2018 - 2022
MSc. Molecular Genetics and Biotechnology, *Universidad de Sevilla (US)*, Seville (Spain) 2017 - 2018
BSc. Biotechnology, *Universitat de Girona (UdG)*, Girona (Spain) 2012 - 2017

Employment

Institut Josep Carreras (IJC)

Badalona (Spain)

Bioinformatician

08/2021 - Present

- Study of the Piwi-interacting RNAs (piRNAs) and their variation across closely-related species.
- Analysis of small RNA-seq data for the study of piRNAs.
- Approach to reduce gene length differences for differential expression analysis with multiple species.
- Mentoring of bachelor's and master's thesis students.

Istituto Europeo di Oncologia (IEO)

Milan (Italy)

Bioinformatician

07/2019 - 07/2021

- Study of different signaling pathways in the development of cancer and stem cell differentiation.
- Analysis and integration of RNA-, ChIP- and ATAC-seq data.
- Development of a pipeline to process and analyze ATAC-seq data.
- Comparison of different software for ATAC-seq peak calling.
- Comparison of sequencing depths for RNA-seq and their impact on differential expression analysis.

Instituto de Biomedicina de Sevilla (IBiS)

Seville (Spain)

Research assistant

07/2018 - 10/2018

- Study of protein Ccr4 and its influence in nucleosome positioning and transcriptional regulation in yeast.
- Computational analysis of MNase-seq data.

Master's thesis student

09/2017 - 07/2018

- Study of protein Xrn1 and its influence in nucleosome positioning and transcriptional regulation in yeast.
- Computational analysis of MNase-seq data.
- MNase-qPCR experiments: DNA digestion, primer design, qPCR.

Institut d'Investigació Biomèdica de Girona

Girona (Spain)

Research internship student

07/2017 - 09/2017

- Identification of new factors (genetic and bacterial) related to adipose tissue physiology and obesity.
- DNA and RNA extraction from animal and human biopsies/feces.

Microbial. Sistemes i aplicacions analítiques, S.L.

Girona (Spain)

Bachelor's thesis student

01/2017 - 06/2017

- Analysis of the mucosa-associated microbiota from human intestinal biopsies
- DNA extraction, qPCR, analysis of sequencing data.

Internship student

09/2016 - 06/2017

- Analysis of pathogens in food and water samples. Food Forensics.
- DNA extraction, qPCR, molecular cloning, bacterial culture.

Publications

JOURNAL ARTICLES

V. Begley *et al.* 2020 **Xrn1 influence on gene transcription results from the combination of general effects on elongating RNA pol II and gene-specific chromatin configuration**. *RNA Biology*. DOI: [10.1080/15476286.2020.1845504](https://doi.org/10.1080/15476286.2020.1845504).

PRESENTATIONS AND POSTERS

A. Mitjavila & T. 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).

Projects

ACADEMIC PROJECTS

Analysis of the variation in piRNA expression across three *Mus* species

- Master's thesis (UOC, 2022). | Supervisor: Dr. Tanya Vavouri. | Grade: 9.7/10, *with honours*.

Influence of Xrn1 in nucleosome positioning across *Saccharomyces cerevisiae* genome and its effects in transcription

- Master's thesis (US, 2018). | Supervisors: Dr. Sebastián Chávez de Diego and Dr. Gabriel Gutiérrez Pozo. | Grade: 9.2/10.
- Related publications: [Begley *et al.*, RNA Biology, 2020](#)

Butyrate-induced changes in the diversity of the intestinal mucosa-associated microbiota in colorectal cancer patients submitted to a lateral ileostomy

- Bachelor's thesis (UdG, 2017). | Supervisor: Prof. Jesús García-Gil. | Grade: 9.4/10.

Skills

Languages

- Catalan (*native*)
- Spanish (*bilingual*)
- English (*IELTS 7.5 - C1*)
- Italian (*basic*)

Bioinformatics

- *Omics data analysis*: Microarray, (small) RNA-seq, ChIP-seq, ATAC-seq, MNase-seq
- *Genomic Browsers*: IGV, UCSC Genome Browser
- *Other*: Analysis of sequences, ENSEMBL Compara, Biomart

Informatics

- *Languages*: R/Bioconductor, Bash, Python (*basic*)
- *Other*: R Markdown, Snakemake, Conda, Docker, Singularity, Git, HPC, LaTeX

Development

R packages

- [p10tMICS](#): visualization of omics and sequencing data in R.
- [ggmitji](#): cool functions to complement ggplots.
- [chromHMMviewR](#): visualize outputs from [ChromHMM](#).

Others.

- [DName](#): shinyApp with learning purposes that transforms a name to DNA/RNA sequence.
- [DNApp](#): shinyApp with some DNA-related applications, including [DName](#)
- [MYomics](#): shinyApp to visualize several omics data. *Ongoing*

Organizations

Societat Catalana de Biologia (SCB). 2018 - Present

Associació de Biotecnòlegs de Catalunya (ASBTEC). 2017 - Present (*Board member.* 2019 - Present)

Honours & Awards

LaCaixa INPhINIT Incoming PhD Fellowship (2022-2025)

Master's thesis with honours (UOC, 2022)

Elite athlete (2015-2021)

World Rowing Under-23 Champion (2016)

References

Available upon request.