ADRIÀ MITJAVILA VENTURA

MSc | PhD student in Bioinformatics at *Institut Josep Carreras*

Biotechnologist with training in Molecular Genetics and Bioinformatics. Interested in omics data analysis to study the mechanisms of gene regulation and their evolution. See more about me on my website.

🖥 EXPERIENCE

11/2022 | 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.

- Analysis and integration of small RNA-seq, RNA-seq and genomics data.
- Mentoring of graduate students and collegues.
- Workshops addressed to high-school students.

08/2021 | 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 genomics data.
- Master's thesis (UOC): *Analysis of the variation in piRNA expression across three Mus species*.
- Mentoring of bachelor's and master's thesis students.
- Workshops addressed to high-school students.

07/2019 | 07/2021

Bioinformatician
Istituto Europeo di Oncologia 📍 Milan, Italy

Group of Epigenetic Mechanisms in Cancer (Dr. Diego Pasini)
Study of Wnt/βcatenin 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 | 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 and MNase-qPCR experiments from Xrn1-, Ccr4-mutant and WT yeast strains.
- Master's thesis (US): *Influence of Xrn1 in nucleosome positioning […] and its effects in transcription*.

07/2017 | 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/DNA extraction from mouse hepatic biopsies and human fecal material.

CONTACT

🏠 Girona (Spain)

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⌨ /amitjavilaventura

🆔 0000-0002-0337-1929

SKILLS

Bioinformatics:

sRNA/RNA/ChIP/ATAC/MNase-seq data analysis, Sequence analysis, Genome Browsers (UCSC, ENSEMBL, IGV)

Informatics:

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

Languages:

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

DEVELOPMENT

`plotmics`: visualization of omics and sequencing data in R.

`ggmitji`: complements and customization for ggplots.

`chromHMMviewR`: visualization of ChromHMM outputs in R.

More on my GitHub profile.

09/2016
|
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.
• Statistical analysis of NGS data 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).
• Supervisor: Dr. Tanya Vavouri.

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 ⓘD

2021

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

👤 POSTERS & PRESENTATIONS

03/2022

Analysis of piRNA variation across three *Mus* species *(in Catalan)*
Mitjavila & Vavouri. Presentation at the *Jornades de Biologia de la Reproducció* from the *Societat Catalana de Biologia*.

02/2023

Fast evolution of piRNA cluster expression across three mouse species.
Mitjavila & Vavouri. Poster at the Workshop of the PhD program in Bioinformatics from UAB.

HONORS & AWARDS

2022
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2025

INPhINIT Incoming PhD Fellowship
La Caixa Foundation

2022

Master's thesis, *with honours*
Universitat Oberta de Catalunya

2019
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2021

SEMM PhD Fellowship
Scuola Europea di Medicina Molecolare (declined)

2015
|
2021

Elite athlete
Boletin Oficial del Estado

2016

World Rowing U23 Champion
FISA - World Rowing

ORGANIZATIONS

2018
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Present

Societat Catalana de Biologia (SCB)
Member (2018-Present)

2017
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Present

Associació de Biotecnòlegs de Catalunya (ASBTEC)
Member (2017-Present), collaborator (2018-Present) and board member (2019-Present)