

ARNAU GARCIA-FERNÁNDEZ

Curriculum Vitae

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EDUCATION

PhD in Biostatistics

2025–Present

Department of Biostatistics and Epidemiology, Erasmus University Medical Center, Rotterdam, the Netherlands

MSc in Statistics and Operations Research

2023–2025

School of Mathematics and Statistics, Universitat Politècnica de Catalunya and Universitat de Barcelona, Spain

Relevant courses: Advanced Statistical Inference (9.3/10), Advanced Survival Analysis (with Honors, wH), Bayesian Analysis (wH), Longitudinal Data Analysis (wH), Probabilities and Stochastic Processes (wH), Statistical software: R and SAS (9/10).

Thesis: "Dynamic prediction for multivariate longitudinal and time-to-event data using super learning and multivariate functional principal component analysis- based methods"; supervisors: Prof. Dimitris Rizopoulos (Erasmus University of Rotterdam) and Prof. Guadalupe Gómez (Universitat Politècnica de Catalunya) (9.5/10 EX)

- Graduated with honors.

BSc in Mathematics

2019–2023

Faculty of Mathematics and Computer Science, Universitat de Barcelona, Spain

Relevant courses: Probabilities, Statistics, Stochastic Processes, Modeling, Advanced Numerical Methods, Mathematical Analysis, Complex Analysis, Ordinary Differential Equations, Partial Differential Equations, Differential Geometry, Differential Geometry of Curves and Surfaces, Topology.

Thesis: "Spatial point processes: from the mathematical basis to its applications". Supervisors: Prof. Carles Rovira (Universitat de Barcelona), Prof. Jorge Mateu (Universitat Jaume I de Castellón) (9.4/10 EX)

AWARDS AND HONORS

Student Conference Award (StCA). Student Conference Award for the 47th Annual Conference of the International Society for Clinical Biostatistics (ISCB).

Awarded work: "A Strictly Proper Metric to Evaluate Dynamic Predictions for Left-Truncated and Right-Censored Data with Asymmetric Misclassification"

Year: 2026

Travel Award. Travel award for the 40th International Workshop on Statistical Modelling (IWSM).

Awarded work: "A Strictly Proper Metric for Evaluating Dynamic Predictions for Left-Truncated and Right-Censored Data with Asymmetric Misclassification"

Year: 2026

Student Award. Best Student Talk at 20th Spanish Biometrics Conference (CEB).

Awarded talk: "Optimizing dynamic predictions from joint models for multivariate longitudinal and time-to-event data via super learning approach"

Year: 2025

XXIII Concurs STUDENT d'Estadística Aplicada, Best Work in Biostatistics Admirall Prize.

Awarded work: "Optimizing dynamic predictions from joint models for multivariate longitudinal and time-to-

event data via super learning approach”
Year: 2025

Best poster award at the 6th General Scientific Meeting of the National Biostatistics Network
Poster awarded: "Goodness-of-fit methods for accelerated failure time models"
Year: 2025

“Matrícula de honor” distinction (Honors Distinction in High School) of the Spanish Government for the best academic record in the “Bachillerato” (High School).
Year: 2019
Educem Centres d’Ensenyament High School

EMPLOYMENT

PhD Candidate
June 2025–Present
Erasmus University Medical Center
Department of Biostatistics and Epidemiology

Intern Researcher
Sept 2024–June 2025
Universitat Politècnica de Catalunya (UPC)
Departament d’Estadística i Investigació Operativa (DEIO)
Internship in the DEIO department of the UPC. My internship is funded by the Iniciació a la Recerca (INIREC) grant. Development of R packages for advanced survival analysis methods. Research on survival analysis. My tasks consisted in biographical research, methodological contributions and statistical software development.

Statistical analysis of a research project on genomics data
2024–2025
Evolutionary Biology Department, University of Barcelona
Statistical analysis for a work based on genomic data. My role was to carry out the statistical analysis, always in constant communication with the team of biomedical researchers.

Clinical Data Manager
Feb 2023–July 2023
Veristat
Biometrics Department
Internship in an American Contract Research Organization (CRO) as a Clinical Data Manager. I participated in several clinical trials, some of them were: HIPRA COVID-19 vaccine, ASPA CNV (observational study of the ultra-rare Canavan disease). I made contributions to data cleaning through SAS statistical software. I participated in the drafting and review of Statistical Analysis Plans (SAP). I was involved in Electronic Data Capture (EDC) tasks.

PUBLICATIONS

Publications in indexed journals:

1. Mireia Besalú, Klaus Langohr, Matilde Francisco, **Arnau Garcia-Fernández**, Guadalupe Gómez Melis. Goodness-of-Fit Methods for Right-Censored Data. *R journal* **17**, 100–124 (2025).
2. Zafrilla-López, Marina and Herrera-Escartín, Daniel and Guardiola-Ripoll, Maria and **Garcia-Fernández, Arnau** and Acosta-Díez, Miriam and Giménez-Palomo, Anna and Saiz, Pilar A and García-Portilla, Maria Paz and Jiménez, Esther and Papiol, Sergi and others. Circadian and sleep-related polygenic scores in relation to lithium treatment response in bipolar disorder. *Neuropsychobiology* (2026).

R packages on CRAN:

GofCens: Goodness of fit method for complete and right-censored data

Authors: K. Langohr, M. Besalú, M. Francisco, **A. Garcia-Fernández**, G. Gómez
R-package: <https://cran.r-project.org/web/packages/GofCens/index.html>
WebPage: <https://arnaugarciagrbio.github.io/GofCens/>

CONFERENCE PRESENTATIONS

Oral communications

11th Survival Analysis for Junior Researchers. Amsterdam, the Netherlands.

Date: 25–27 March 2026

A. Garcia-Fernández, D. Rizopoulos, J. Kooiman, P. Miranda-Afonso. "A New Strictly Proper Metric for Evaluating Dynamic Time-to-Event Predictions with Asymmetric Misclassification".

XX Spanish Biometrics Conference (CEB). Elche, Spain.

Date: 16–19 September 2025

A. Garcia-Fernández, D. Rizopoulos, G. Gómez Melis. "Optimizing dynamic predictions from joint models for multivariate longitudinal and time-to-event data via super learning approach".

XLI Spanish National Congress of Statistics and Operations Research. Lleida, Spain.

Date: 10–13 June 2025

A. Garcia-Fernández, K. Langohr, M. Besalú, G. Gómez Melis. "Goodness-of-fit methods for right-censored data: theory, implementation in R, and application in accelerated failure time models".

VII Scientific Students Conferences of the Spanish Biostatistics Society. Barcelona, Spain.

Date: 7–9 February 2024

A. Garcia-Fernández, C. Rovira, J. Mateu. Final Degree Thesis Presentation: "Spatial point processes: from the mathematical basis to its applications".

Poster communications

6th General Scientific Meeting of the National Biostatistics Network. Valencia, Spain.

Date: 15–17 January, 2025

Arnau Garcia-Fernandez, Klaus Langohr, Mireia Besalú, Guadalupe Gómez Melis. Goodness-of-fit methods for accelerated failure time models (AFTM).

- Biostatnet Poster Award.

37th European College of Neuropsychopharmacology (ECNP) Congress, Milan, Italy

Date: 21–24 September 2024

M Zafrilla-López, M Acosta-Díez, D Herrera-Escartín, M Guardiola-Ripoll, **A García-Fernández**, A Giménez-Palomo, PA Saiz, C Barrot, E Jiménez, S Papiol, V Ruiz, P Gavín, L González-Blanco, T.G. Schulze, M Fatjó-Vilas, A Benabarre, M Mitjans, B Arias. Sleep-related polygenic scores and multi-polygenic score approach to lithium response in bipolar disorder.

- ECPN Poster Award.

Early Career Day of the Institut de Biomedicina of the Universitat de Barcelona (IBUB), Barcelona, Spain

Date: 14th June 2024

M Zafrilla-López, D Herrera-Escartín, M Guardiola-Ripoll, **A García-Fernández**, M Acosta-Díez, A Giménez-Palomo, PA Saiz, E Jiménez, S Papiol, P Gavín, M Fatjó-Vilas, A Benabarre, M Mitjans, B Arias. Association between sleep-related polygenic scores and lithium response in bipolar disorder.

XXVII Congreso Nacional de Psiquiatría (XXVII SEPSM). San Sebastián, Spain

Date: 17–21 September, 2024

M Zafrilla-López, D Herrera-Escartín, M Guardiola-Ripoll, **A García-Fernández**, M Acosta-Díez, A Giménez-Palomo, P A Saiz, C Barrot-Feixat, E Jiménez, S Papiol, L Fañanás, V Ruiz, P Gavín, L González-Blanco, E Vieta, T G Schulze, M Fatjó-Vilas, A Benabarre, M Mitjans, B Arias. Asociación entre la respuesta al litio y los patrones de sueño: un estudio basado en puntuaciones poligénicas de riesgo.

Talks at seminars

GRBIO Inter-Student Seminar. Barcelona, Spain.

Date: 21 October 2024

A. Garcia, D. Rizopoulos, G. Gómez. Super Learning in Joint Models.

Statistical inference Decision and Operations Research (SiDOR) group Seminar at Universidade de Vigo Seminar. Vigo, Spain.

Date: 7 April 2025

A. Garcia, K. Langhor, M. Besalú, M. Francisco, G. Gómez. Goodness-of-fit methods for right-censored data: theory, implementation in R, and a potential application in accelerated failure time models.

GRBIO Seminar at Universitat Politècnica de Catalunya. Barcelona, Spain.

Date: 29 April 2025

A. Garcia, D. Rizopoulos, G. Gómez. Improving dynamic predictions for multivariate longitudinal and time-to-event data via super learning and multivariate functional principal component analysis-based methods.

RESEARCH STAYS

Biostatnet stay at Universidade de Vigo, SiDOR group. Vigo, Spain.

Date: 7-11 April, 2025

Research stay at Universidade de Vigo with Prof. Jacobo de Uña-Álvarez within the Biostatnet research stays program framework.

LANGUAGES

English

C1 certificate level.

Catalan

Native speaker level.

Spanish

Native speaker level.

Sign language

Intermediate level.

PROGRAMMING LANGUAGES

C, C++, R, Python, SAS, Scala, Stan (Bayesian software), AMPL, SQL.

SCIENCE OUTREACH ACTIVITIES

"Xerrades taller" in the Facultat de Matemàtiques i Informàtica of the Universitat de Barcelona

Dates: 16th November 2022 and 24th January 2023

Talks addressed to high school students with the aim of disseminating university mathematics. "Xerrades taller" (<https://mat UB.edu/matapps/activitats/xerrades/>) is an activity promoted by the *Facultat de Matemàtiques i Informàtica* of the *Universitat de Barcelona* for scientific dissemination.

StatWars talks

Date: 30th October 2024

Talks addressed to high school students with the aim of disseminating statistics. StatWars (<https://www.proyectostatwars.es/>) is a "Fundación Española para la Ciencia y la Tecnología" and "Red Nacional de Bioestadística" project.

"Setmana de la Ciència" talks

Date: 15th November 2024

Participation as a speaker in the statistical dissemination activity organized by the Catalan Statistical Society (<https://soce.iec.cat/>) for the "Setmana de la Ciència" (Science Week) in Catalonia.

OTHER ACTIVITIES

Red Cross Volunteer

2024

Staying with children admitted to the paediatric ward of Granollers (Barcelona) Hospital.

Handball coach

2017–2019

Les Franqueses del Vallés Handball Club

PROFESSIONAL MEMBERSHIPS

Spanish Biostatistics Society (SEB)

2024–Present

International Biometric Society (IBS)

2024–Present

Catalan Statistics Society (SoCE)

2024–Present

REFERENCES

Guadalupe Gómez Melis

Professor at the UPC. GRBIO Coordinator.

Jordi Girona 1-3, Campus Nord, Edifici C5, Room 210, 08034 Barcelona

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Dimitris Rizopoulos

Professor at the Erasmus Medical Center Rotterdam.

Building Na Room 2815, Erasmus MC, Dr. Molewaterplein 40, 3015 GD Rotterdam, the Netherlands

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