

Marta Bofill Roig

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📄 <https://martabofillroig.github.io/>

Education

- 2016-2020 **PhD in Statistics and Operations Research (UPC)**. *Universitat Politècnica de Catalunya*.
Thesis title: Statistical methods and software for clinical trials with binary and survival endpoints. Efficiency, sample size and two-sample comparison.
DOI: 10.5281/zenodo.4273986
Advisor: Guadalupe Gómez Melis.
Defense date: December 2020.
Qualification: Excellent Cum Laude, International mention.
- 2014-2016 **Master in Statistics and Operations Research (MESIO UPC-UB)**. *Universitat Politècnica de Catalunya – Universitat de Barcelona*.
Master’s Thesis: Relative Efficiency between two tests. (June 2016).
Advisor: Guadalupe Gómez Melis.
- 2009-2014 **Bachelor’s degree in Mathematics**. *Universitat de Barcelona (UB)*
Bachelor’s Thesis: Anàlisi de la supervivència per dades censurades. (February 2014).
Advisor: Olga Julià de Ferran.

Awards and travel grants

- Research stay fellowship (Borsa Ferran Sunyer i Balaguer, 2020)**.
Research stay at the Center for Medical Statistics, Informatics, and Intelligent Systems, Medical University of Vienna. September–November 2020.
Criterion for decision: submission of research proposal. *Statistical methodologies for efficient trial strategies in oncology*.
- Travel grant (BIOSTATNET)**. *IV Jornadas Científicas de Estudiantes de la Sociedad Española de Biometría (2019)*.
Criterion for decision: submission of short abstract. *CompARE: a web app to study Composite Endpoints*.
- Young Statistician Showcase**. *XVII Spanish Biometric Conference and the VII Ibero-American Biometric Meeting (CEB-EIB 2019)*
Criterion for decision: submission of extended abstract. *A nonparametric two-sample class of statistics for time-to-event and binary outcomes*.
- Travel grant**. *XVII Spanish Biometric Conference and the VII Ibero-American Biometric Meeting (CEB-EIB 2019)*
Criterion for decision: submission of extended abstract. *A nonparametric two-sample class of statistics for time-to-event and binary outcomes*.
- Young Statistician Showcase**. *XVI Spanish Biometric Conference (CEB 2017)*.
Criterion for decision: submission of extended abstract. *Clinical Trial Designs with Multiple Binary Endpoints*.
- Travel grant**. *XVI Spanish Biometric Conference (CEB 2017)*.
Criterion for decision: submission of extended abstract. *Clinical Trial Designs with Multiple Binary Endpoints*.

Student Awards. *9th EMR-IBS and Italian Region Conference (EMR-IBS 2017).*
Criterion for decision: submission of extended abstract *The anticipated odds ratios to decide the choice of a primary binary endpoint.*

Young researchers mobility program BIOSTATNET (2016).

Research stay with professor Antonio Martín Andrés at the Department of Statistics and Operations research of the University of Granada (Spain). 13-22 November, 2016.

XIV Concurs STUDENT d'Estadística Aplicada (1r Prize in the category "Idescat").

Awarded work: *Efficient clinical trial design for the selection of a primary binary endpoint.*

Student Scholarships

2017 - 2021 **María de Maeztu Programme for Units of Excellence in R&D**

Description: Predoctoral fellowship from the Spanish Ministry of Economy and Competitiveness, through the María de Maeztu Programme for Units of Excellence in R&D (MDM-2014-0445).

2015 - 2016 **INIREC fellowship: Support for the initiation of research**

Description: Master fellowship to work within the field of survival analysis in the research group GRBIO.

Research Stays

2020 **Medical University of Vienna, Center for Medical Statistics, Informatics, and Intelligent Systems**

Description: Research stay with professor Martin Posch (Section for Medical Statistics). 7 September 2020 – 6 November 2020.

2019 **The University of Texas MD Anderson Cancer Center**

Description: Research stay with professor Yu Shen (Department of Biostatistics, Division of Basic Sciences). 10 October 2019 – 13 November 2019.

Publications

Published papers

A class of two-sample nonparametric statistics for binary and time-to-event outcomes.

Authors: Marta Bofill Roig, Guadalupe Gómez Melis.

Accepted for publication in *Statistical Methods in Medical Research*, 2021. Preprint version: arxiv.org/abs/2002.01369.

Design of phase III trials with long-term survival outcomes based on short-term binary results.

Authors: Marta Bofill Roig, Yu Shen, Guadalupe Gómez Melis.

Statistics in Medicine, 2021. DOI: [10.1002/sim.9018](https://doi.org/10.1002/sim.9018).

A new approach for sizing trials with composite binary endpoints using anticipated marginal values and accounting for the correlation between components.

Authors: Marta Bofill Roig, Guadalupe Gómez Melis.

Statistics in Medicine, 2019. May 20;38(11):1935–1956. DOI: [10.1002/sim.8092](https://doi.org/10.1002/sim.8092).

Selection of composite binary endpoints in clinical trials.

Authors: Marta Bofill Roig, Guadalupe Gómez Melis.

Biometrical Journal, 2018. Mar;60(2):246–261. DOI: [10.1002/bimj.201600229](https://doi.org/10.1002/bimj.201600229).

Reproducibility, visibility and diversity: Current trends in Biostatistics viewed by young researchers

Authors: P Cacheiro, A Lorenzo-Arribas, Lázaro E, Alvares D, I Barrio, M Bofill Roig, M Branco, M Gómez Mateu, Vilor-Tejedor N, MJ Pérez-Haro.

Boletín de Estadística e Investigación Operativa Vol. 32(3):pp. 257-277 (March 2018).

Big Data in Biomedical Research. Perspectives from the Biostatnet-CRM Workshop

Authors: Moisés Gómez-Mateu, Altea Lorenzo-Arribas, Marta Bofill Roig, Natàlia Vilor-Tejedor, Irantzu Barrio, Jenifer Espasandín-Domínguez, Ipek Guler, Pilar Cacheiro, Urko Aguirre, Nuria Perez-Alvarez.

Boletín de Estadística e Investigación Operativa 34(1):73-91(November 2016).

Submitted papers

Decision tool and Sample Size Calculator for Composite Endpoints.

Authors: Marta Bofill Roig, Jordi Cortés Martínez, Guadalupe Gómez Melis.

Preprint Arxiv, 2020. URL: arxiv.org/abs/2001.03396.

Statistical Software

CompARE: Sample size and effect size calculation for composite endpoints.

Authors: Marta Bofill Roig, Jordi Cortés, Guadalupe Gómez Melis.

Web-page: <https://compare-composite.github.io/CompARE-package>

Shiny-app: <https://cinna.upc.edu/compare/>

CRAN R-package: <https://cloud.r-project.org/web/packages/CompAREdesign/>.

Survbin: Two-sample statistics for binary and time-to-event outcomes.

Authors: Marta Bofill Roig (maintainer), Guadalupe Gómez Melis.

Web-page: <https://martabofillroig.github.io/SurvBin/>

R-package: <https://github.com/MartaBofillRoig/SurvBin>.

survmixer: Design of clinical trials with survival endpoints based on binary response.

Authors: Marta Bofill Roig (maintainer), Yu Shen, Guadalupe Gómez Melis.

Web-page: <https://martabofillroig.github.io/survmixer/>

R-package: <https://CRAN.R-project.org/package=survmixer>.

Work Experience

2021- (full-time) **Postdoctoral Researcher.** Medical University of Vienna (MUW) (Vienna, Austria)
Postdoctoral position linked to the EU-IMI project EU-PEARL (eu-pearl.eu).

2016-2020 (part-time) **Teaching Assistant (DEIO), UPC.**
Courses:

- **Lifetime Data Analysis**, Master's degree in Statistics and Operations Research (MESIO UPC-UB). (2017-2018, 2019-2020).
- **Advanced Topics in Survival Analysis**, MESIO UPC-UB. (2016-2017, 2017-2018).
- **Introducción a la Inferencia Estadística**, Bachelor in Statistics (Grado Interuniversitario de Estadística UB-UPC). (2017-2018).
- **Probabilitat i Estadística**, Bachelor's degree in Informatics Engineering (FIB UPC). (2016-2017).

2019 (part-time) **Teaching Assistant**, Vall d'Hebron Institut de Recerca (VHIR) – GRBIO.
Courses:

- **Basic Statistics for Biomedical Research.** Short course (September 2019).

2016-2018 (part-time) **Technical Research Assistant.**
Departament d'Estadística i Investigació Operativa (DEIO), UPC.

Participation in projects

PhD Student in PID2019-104830RB-I00. *Statistical methodologies for clinical and omics data and their applications in health sciences.*

Principal Investigator (PI): Guadalupe Gómez Melis.

PhD Student in MTM2015-64465-C2-1-R. *Statistical methods for clinical trials, complex censoring schemes and integrative omics data analysis.*

PI: Guadalupe Gómez Melis.

Member of GRBIO:

Research group in Biostatistics and Bioinformatics. *Universitat Politècnica de Catalunya-Universitat Barcelona, Generalitat de Catalunya.*

PI: Guadalupe Gómez Melis. Grants: 2017 SGR 622, 2014 SGR 464.

Member of STAT-WARS:

Dissemination projects “STAT WARS: EL DESPERTAR DE LOS DATOS” and “STAT WARS: EL IMPERIO DE LOS DATOS” *Biostatnet, as a member of Universitat Politècnica de Catalunya.*

PI: Carmen M. Cadarso Suárez. Grants: FCT-16-11015, FCT-18-12946.

Invited Student at Intensive Research Programme on Statistical Advances for Complex Data. *CRM, Barcelona* September 8 to November 27, 2015.

Conference presentations

IV Jornadas Científicas de Estudiantes de la Sociedad Española de Biometría (SEB) (IV-JJSEB)

Authors: Marta Bofill Roig (presenting), Guadalupe Gómez Melis.

Oral presentation: CompARE: A web app to study Composite Endpoints.

Albacete (Spain), 5-6 September, 2019.

40th Annual Conference of the International Society for Clinical Biostatistics (ISCB 2019)

Authors: Marta Bofill Roig (presenting), Guadalupe Gómez Melis.

Oral presentation: A general class of statistics for binary and survival outcomes.

Leuven (Belgium), 14-18 July, 2019.

40th Annual Conference of the International Society for Clinical Biostatistics (ISCB 2019)

Authors: Guadalupe Gómez Melis (presenting), Jordi Cortés, Marta Bofill Roig.

Oral presentation: CompARE: A web app to study Composite Endpoints.

Leuven (Belgium), 14-18 July, 2019.

XVII Spanish Biometric Conference and the VII Ibero-American Biometric Meeting (CEB-EIB 2019)

Authors: Marta Bofill Roig (presenting), Guadalupe Gómez Melis.

Oral presentation: A nonparametric two-sample class of statistics for time-to-event and binary outcomes.

Valencia (Spain), 19-21 June, 2019.

8th Annual Survival Analysis for Junior Researchers Conference (SAfJR 2019)

Authors: Marta Bofill Roig (presenting), Guadalupe Gómez Melis.

Oral presentation: Binary and survival joint test.

Copenhagen (Denmark), 24-26 April, 2019.

4a Reunión General de BIOSTATNET

Authors: Marta Bofill Roig (presenting), Guadalupe Gómez Melis.

Oral presentation: Binary and survival joint test.

Santiago de Compostela (Spain), 25-26 January, 2019.

XXIXth International Biometric Conference (IBC 2018)

Authors: Marta Bofill Roig (presenting), Guadalupe Gómez Melis.

Oral presentation: Sample Size Derivation for Composite Binary Endpoints Accounting for Departures of the Anticipated Values.

Barcelona (Spain), 8-13 July, 2018.

XXIXth International Biometric Conference (IBC 2018)

Authors: Jordi Cortés (presenting), Marta Bofill Roig, Guadalupe Gómez Melis.

Oral presentation: CompARE: Sample Size Calculation for Time-To-Event Composite Endpoints.

Barcelona (Spain), 8-13 July, 2018.

III Jornadas Científicas de Estudiantes de la SEB (III-JJSEB).

Authors: Marta Bofill Roig (presenting), Jose Luis Jiménez.

Oral presentation: Facing the challenges in clinical trials.

Bilbao (Spain), January, 2018.

III Jornadas Científicas de Estudiantes de la SEB (III-JJSEB).

Authors: Lore Zumeta (presenting), Marta Bofill Roig, Guadalupe Gómez Melis.

Oral presentation: A multi-state model for the prognosis of non-mild acute pancreatitis.

Bilbao (Spain), January, 2018.

III Jornadas Científicas de Estudiantes de la SEB (III-JJSEB).

Authors: Jordi Cortés (presenting), Marta Bofill Roig, Guadalupe Gómez Melis.

Oral presentation: Sample size calculation using CompARE.

Bilbao (Spain), January, 2018.

XVI Spanish Biometric Conference (CEB 2017).

Authors: Marta Bofill Roig (presenting), Guadalupe Gómez Melis

Oral presentation: Clinical Trial Designs with Multiple Binary Endpoints.

Sevilla (Spain), 13-15 September, 2017.

IV Congreso de Jóvenes Investigadores Real Sociedad Matemática Española.

Authors: Marta Bofill Roig (presenting), Guadalupe Gómez Melis.

Oral presentation: Clinical Trial Designs with Multiple Binary Endpoints.

Valencia (Spain), 4-8 September, 2017.

International Society for Clinical Biostatistics Conference 2017 (ISCB 2017).

Authors: Marta Bofill Roig (presenting), Guadalupe Gómez Melis.

Oral presentation: Sample size derivation for Binary Composite Endpoints.

Vigo (Spain), 9-13 July, 2017.

9th EMR-IBS and Italian Region Conference (EMR-IBS 2017).

Authors: Marta Bofill Roig (presenting), Guadalupe Gómez Melis.

Oral presentation: The anticipated odds ratios to decide the choice of a primary binary endpoint.

Thessaloniki (Greece), 8-12 May, 2017.

3a Reunión General BIOSTATNET 2017.

Authors: Marta Bofill Roig (presenting), Guadalupe Gómez Melis.

Oral presentation: Sample size determination using composite binary endpoints.

Santiago de Compostela (Spain), 20-21 January, 2017.

International Conference of the ERCIM WG on Computational and Methodological Statistics (ERCIM 2016).

Authors: Guadalupe Gómez Melis (presenting), Moisés Gómez-Mateu, Marta Bofill Roig

Oral presentation: Planning clinical trials with CompARE.

Sevilla (Spain), 9-11 December, 2016.

II Jornadas Científicas de Estudiantes de la SEB (II-JJSEB).

Authors: Marta Bofill Roig (presenting), Guadalupe Gómez Melis.

Oral presentation: The efficient choice of a primary binary endpoint for sample size assessment.

Barcelona (Spain), 8-9 September, 2016.

XXXVI Congreso Nacional de Estadística e Investigación Operativa.

Authors: Guadalupe Gómez Melis (presenting), Moisés Gómez-Mateu, Marta Bofill Roig

Oral presentation: Planning clinical trials involving composite endpoints.

Toledo (Spain), 5-7 September, 2016.

International Society for Clinical Biostatistics Conference 2016 (ISCB 2016).

Authors: Marta Bofill Roig (presenting), Guadalupe Gómez Melis

Oral presentation: The efficient choice of a primary binary endpoint for sample size assessment.

Birmingham (UK), 21-25 August, 2016.

Professional society involvement

Member of the board of the Societat Catalana d'Estadística.

Member of the International Biometric Society (Spanish region).

Member of the SEB-BIOSTATNET MENTORING COMMITTEE.

<https://www.mentorias-sebbiostatnet.es/>.

Member of the BIOSTATNET Spanish network.

Member of the International Society for Clinical Biostatistics.

Participation in research events

Volunteer in the Local Organising Committee.

XXIXth International Biometric Conference. Barcelona (Spain), 8-13 July 2018.

Local Organising Committee and Scientific Program Committee.

III Jornadas Científicas de Estudiantes de la SEB. Bilbao (Spain), 18-19 Jan. 2018.

Local Organising Committee and Scientific Program Committee.

II Jornadas Científicas de Estudiantes de la SEB. Barcelona (Spain), 8-9 Sept. 2016.

Participation in Round tables.

- “El papel de la mujer en la estadística”. *IV Jornadas Científicas de Estudiantes de la SEB.* Albacete (Spain), 5-6 Sept. 2019.
- “SEB-BIOSTATNET mentoring program”. *4a Reunión General BIOSTATNET.* Santiago de Compostela (Spain), 25-26 Jan. 2019.
- “Desafiando el futuro” (as Chair). *III Jornadas Científicas de Estudiantes de la SEB.* Bilbao (Spain), 18-19 Jan. 2018.
- “Mesa redonda de jóvenes investigadores”. *3a Reunión General BIOSTATNET.* Santiago de Compostela (Spain), 20-21 Jan. 2017.

Participation in outreach activities

Participation in the project “Llampecs de Ciència”.

Web-page: <https://www.youtube.com/channel/UCuEM9J119ka8ai2Wyeo45Xg> .

Participation in STAT-WARS activities.

- “Stat-Wars Catalunya” (12 March 2018)
- “Matemàtiques com tu- Dia Internacional de la dona i la nena a la ciència”. (9 Feb. 2018)
- XX Jornada Didàctica Matemàtica d’ABEAM (4 November 2017)

Attendance at courses and workshops

Workshops.

- Adaptive Designs and Multiple Testing Procedures Workshop 2017. 8-9 June 2017, Cambridge (UK).
- Workshop on Joint Modeling and Beyond, 14-15 April 2016, Hasselt (Belgium).
- BIOSTATNET Workshop on Biomedical Big Data, 26-27 November 2015, Barcelona (Spain).

Courses.

- *Adaptative Methods in Clinical Research*, Thomas Jaki, 2-5 July 2018, Summer School MESIO UPC, Barcelona.
- *The Analysis of Recurrent Event Data in Clinical Trials*, Mouna Akacha and Richard Cook, 9 June 2017, International Society for Clinical Biostatistics Conference 2017, Vigo (Spain).
- *Demystifying causal inference in randomised trials*, Ian White, Graham Dunn, Sabine Landau, Richard Emsley, 21 August 2017, International Society for Clinical Biostatistics Conference 2016, Birmingham (UK).
- *Flexible Regression and Smoothing. The GAMLSS packages in R*, Mikis Stasinopoulos, 16-18 November 2015, Intensive Research Programme on Statistical Advances for Complex Data CRM, Barcelona.
- *Competing Risks - Concepts, Methods and Software*, Ronald Geskus, 14-16 October 2015, Intensive Research Programme on Statistical Advances for Complex Data CRM, Barcelona.
- *Design and Monitoring of Adaptive Clinical Trials*, Cyrus R. Mehta and Pantelis Vlachos, 22-26 June 2015, Summer School MESIO UPC, Barcelona.
- *Statistical Evaluation of Diagnostic and Predictive Models*, Thomas Alexander Gerds, 29 June - 2 July 2015, Summer School MESIO UPC, Barcelona.
- *Modelos Lineales Generalizados*, Marta Pérez-Casany, 29 June - 2 July 2015, Summer School MESIO UPC, Barcelona.
- *PH207X: Health in Numbers: Quantitative Methods in Clinical and Public Health Research*. HarvardX, Harvard University (Online Course), 2013

Technical Skills

Computer Languages	fluent in R, L ^A T _E X; some C, SAS, STATA, MINITAB, HTML.
Operation Systems	Windows, Ubuntu.

Languages

Spanish	Mothertongue.
Catalan	Mothertongue.
English	Advanced Level (C1), <i>Merit School Course</i> (June 2018). Course English for University Lecturing, UPC, December 2018. Introduction to Research for Essay Writing by University of California, Irvine on Coursera. Certificate earned on April 9, 2017.