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.*
Admission PhD programme UPC (May 2016).
Thesis Proposal: Statistical methods for the design of clinical trials accounting for primary binary endpoints. (January 2017).
Advisor: Guadalupe Gómez Melis.
Expected defense: November 2020.

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 Biometria (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

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 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.

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.

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.
Boletin de Estadistica e Investigacion 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.
Boletin de Estadistica e Investigacion Operativa 34(1):73-91(November 2016).

Submitted papers

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.
Submitted, 2020. URL: arxiv.org/abs/2008.12887.

A class of two-sample nonparametric statistics for binary and time-to-event outcomes.
Authors: Marta Bofill Roig, Guadalupe Gómez Melis.
Preprint Arxiv, 2020. URL: arxiv.org/abs/2002.01369.

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/
R-package: https://github.com/CompARE-Composite/CompARE-package.

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://github.com/MartaBofillRoig/survmixer.

Work Experience

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 BIOSTATNET Spanish network.

Member of the International Society for Clinical Biostatistics.

Member of the Caucus for Women in Statistics.

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/UCuEM9J1l9ka8ai2Wyeo45Xg` .

Participation in STAT-WARS activities.
- "Stat-Wars Catalunya" (12 March 2018)
- "Matemàtiques com tu- Dia Internacional de la dona i la nena a la ciencia". (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, LaTeX; some C, SAS, Stata, Minitab, HTML.

Operation Systems
: Windows, Ubuntu.

Languages

Spanish
: Mothertongue.

Catalan
: Mothertongue.

English
: Advanced Level (C1), *Merit School Course* (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.