

## EDUCATION

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- Universitat Politècnica de Catalunya (UPC)** Spain  
PhD in Statistics and Operations Research 2016–2020
- Thesis: “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
  - Qualification: Excellent Cum Laude, International mention
- Universitat Politècnica de Catalunya – Universitat de Barcelona** Spain  
Master in Statistics and Operations Research (MESIO UPC-UB) 2014–2016
- Thesis: “Relative Efficiency between two tests”.
  - Advisor: Guadalupe Gómez Melis
- Universitat de Barcelona (UB)** Spain  
Bachelor’s degree in Mathematics 2009–2014
- Thesis: “Anàlisi de la supervivència per dades censurades”.
  - Advisor: Olga Julià de Ferran

## EXPERIENCE

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- Medical University of Vienna** Vienna, Austria  
Postdoctoral researcher February 2021 - Present
- at the Center for Medical Data Science, Section for Medical Statistics
- Universitat Politècnica de Catalunya** Barcelona, Spain  
Postdoctoral researcher December 2020 - February 2021
- Universitat Politècnica de Catalunya** Barcelona, Spain  
Technical Research Assistant 2016 – 2018

## RESEARCH STAYS

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- **Universität Bremen**, Kompetenzzentrum für Klinische Studien Bremen und Institut für Statistik. Description: Short research stay with professor Werner Brannath (FB 03 Mathematik/Informatik). 2 Nov 2021 – 6 Nov 2021.
- **Medical University of Vienna**, Center for Medical Data Science. Description: Research stay with professor Martin Posch (Section for Medical Statistics). 7 Sept 2020 - 6 Nov 2020.
- **The University of Texas MD Anderson Cancer Center**. Description: Research stay with professor Yu Shen (Department of Biostatistics, Division of Basic Sciences). 10 Oct 2019 – 13 Nov 2019.

## PUBLICATIONS

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1. **Bofill Roig, M.**, Burgwinkel, C., Garczarek, U., Koenig, F., Posch, M., Nguyen, Q. & Hees, K. On the use of non-concurrent controls in platform trials: a scoping review. *Trials* **24**, 1–17 (2023).
2. Krotka, P., Hees, K., Jacko, P., Magirr, D., Posch, M. & **Bofill Roig, M.** NCC: An R-package for analysis and simulation of platform trials with non-concurrent controls. *SoftwareX*, (In press). Preprint arXiv:2302.12634 [stat.ME] (2023).
3. Semmler, G., Scheiner, B., Balcar, L., Paternostro, R., Simbrunner, B., Pinter, M., Trauner, M., **Bofill Roig, M.**, Meyer, E., Hofer, B., Mandorfer, M., Pinato David; Zauner, C., Reiberger, T. & Funk, G. Disturbances in sodium and chloride homeostasis predict outcome in stable and critically-ill patients with cirrhosis. *Alimentary Pharmacology & Therapeutics* (2023).
4. **Bofill Roig, M.** & Gómez Melis, G. A class of two-sample nonparametric statistics for binary and time-to-event outcomes. *Statistical Methods in Medical Research* **31**, 225–239 (2022).
5. **Bofill Roig, M.**, Gómez Melis, G., Posch, M. & Koenig, F. Adaptive clinical trial designs with blinded selection of binary composite endpoints and sample size reassessment. *Biostatistics*. kxac040 (2022).
6. **Bofill Roig, M.**, Koenig, F., Meyer, E. & Posch, M. Commentary: Two approaches to analyze platform trials incorporating non-concurrent controls with a common assumption. *Clinical Trials* **19**, 502–503 (2022).
7. **Bofill Roig, M.**, Krotka, P., Burman, C.-F., Glimm, E., Gold, S. M., Hees, K., Jacko, P., Koenig, F., Magirr, D., Mesenbrink, P., *et al.* On model-based time trend adjustments in platform trials with non-concurrent controls. *BMC medical research methodology* **22**, 1–16 (2022).
8. Gold, S. M., **Bofill Roig, M.**, Miranda, J. J., Pariente, C., Posch, M. & Otte, C. Platform trials and the future of evaluating therapeutic behavioural interventions. *Nature Reviews Psychology* **1**, 7–8 (2022).
9. **Bofill Roig, M.**, Shen, Y. & Gómez Melis, G. Design of phase III trials with long-term survival outcomes based on short-term binary results. *Statistics in Medicine* **40**, 4122–4135 (2021).
10. **Bofill Roig, M.** & Gómez Melis, G. A new approach for sizing trials with composite binary endpoints using anticipated marginal values and accounting for the correlation between components. *Statistics in Medicine* **38**, 1935–1956 (2019).
11. **Bofill Roig, M.** & Gómez Melis, G. Selection of composite binary endpoints in clinical trials. *Biometrical Journal* **60**, 246–261 (2018).
12. Cacheiro, P., Lorenzo-Arribas, A., Lázaro, E., Alvares, D., Barrio, I., **Bofill Roig, M.**, Branco, M., Gómez-Mateu, M., Vilor-Tejedor, N. & Haro, M. Reproducibility, visibility and diversity: Current trends in Biostatistics viewed by young researchers. *Boletín de Estadística e Investigación Operativa* **34**, 73–91 (2018).
13. Gómez-Mateu, M., Lorenzo-Arribas, A., **Bofill Roig, M.**, Vilor-Tejedor, N., Barrio, I., Espasandín-Domínguez, J., Guler, I., Cacheiro, P., Aguirre, U. & Perez-Alvarez, N. Big data in biomedical research. Perspectives from the biostatnet-CRM Workshop. *Boletín de Estadística e Investigación Operativa* **32**, 257–277 (2016).

## PUBLICATIONS UNDER REVIEW

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1. Cortés Martínez, J., **Bofill Roig, M.**, Gómez Melis, G. (2022). Design of Trials with Composite Endpoints with the R Package CompAREdesign. (Under review). arXiv:2211.02535 [stat.ME]
2. Fischer, L., **Bofill Roig, M.**, Brannath, W. The Online Closure Principle. (Under review). arXiv:2211.11400 [stat.ME]

3. Fischer, L., **Bofill Roig, M.**, Brannath, W. An Adaptive-Discard-Graph for online error control. (Under review). arXiv:2301.11711 [stat.ME]
4. **Bofill Roig, M.**, Glimm, E., Mielke, T., Posch, M. Optimal allocation strategies in platform trials. (Under review) arXiv:2304.03035 [stat.ME]
5. Freitag, M., Zocholl, D., Meyer, E., Gold, S., **Bofill Roig, M.**, De Smedt, H., Posch, M., Koenig, F. Design Considerations for a Phase II platform trial in Major Depressive Disorder. (Under review)
6. Fischer, L., **Bofill Roig, M.**, Brannath, W. An exhaustive ADDIS principle for online FWER control. (Under review). arXiv:2308.13827 [stat.ME]

## STATISTICAL SOFTWARE

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1. NCC: Simulation and analysis of platform trials with non-concurrent controls.  
Authors: Krotka, P. (maintainer), **Bofill Roig, M.** (thesis advisor), Hees, K., Jacko, P., Magirr, D.  
Web-page: <https://pavlakrotka.github.io/NCC/>  
R-package: <https://cran.r-project.org/package=NCC>
2. CompARE: Sample size and effect size calculation for composite endpoints.  
Authors: **Bofill Roig, M.** (maintainer), Cortés, J.  
R-package: <https://cran.r-project.org/package=CompAREdesign>  
Shiny-app: <https://cinna.upc.edu/compare/>
3. eselect: An R package for adaptive trial designs with selection of composite endpoints and sample size reassessment.  
Authors: **Bofill Roig, M.** (maintainer)  
R-package: <https://cran.r-project.org/package=eselect>
4. survmixer: Design of clinical trials with survival endpoints based on binary response.  
Authors: **Bofill Roig, M.** (maintainer)  
Web-page: <https://martabofillroig.github.io/survmixer/>  
R-package: <https://cran.r-project.org/package=survmixer>
5. Survbin: Two-sample statistics for binary and time-to-event outcomes.  
Authors: **Bofill Roig, M.** (maintainer)  
Web-page: <https://martabofillroig.github.io/SurvBin/>  
R-package: <https://github.com/MartaBofillRoig/SurvBin>

## GRANTS, FELLOWSHIP, AWARDS AND SCHOLARSHIPS

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### Project grant

- Project *Methods for complex trial designs with shared controls* within Austrian Science Fund (FWF) ESPRIT Programme (“Early Stage Programme: Research, Innovation and Training”). Reference: ESP 442. From 2023 to 2026. (Amount: 316,036.52 €)

### Fellowships

- María de Maeztu Programme for Units of Excellence in R&D. Description: Predoctoral (and postdoctoral) 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). Reference: BES-2017-082157. From 2018 to 2021.(Amount: 92,750 €)
- INIREC fellowship: Support for the initiation of research Description: Master fellowship to work within the field of survival analysis in the research group GRBIO.

### Awards

- Special Doctoral Awards 2022 – Universitat Politècnica de Catalunya. Awarded for the thesis “Statistical methods and software for clinical trials with binary and survival endpoints. Efficiency, sample size and two-sample comparison” in the field of sciences.
- Student Award. Best conference paper at 9th EMR-IBS and Italian Region Conference. Criterion for decision: submission of extended abstract “The anticipated odds ratios to decide the choice of a primary binary endpoint”.
- XIV Concurs STUDENT d’Estadística Aplicada (1r Prize in the category “Idescat”). Treball premiat: “Efficient clinical trial design for the selection of a primary binary endpoint”.

## 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”.
- **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.
- **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**: Invited talk at plenary session. 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**: Invited talk at plenary session. 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”.

## PARTICIPATION IN RESEARCH PROJECTS

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- eWHORM: Enabling the WHO-Roadmap 2030 (101103053). European Commission. Research and Innovation actions supporting the global health EDCTP3 Joint Undertaking (HORIZON-JU-GH-EDCTP3-2022-01).
- EU-PEARL: EU Patient- cEntric clinicAl tRial pLatform (853966). European Commission. H2020-EU.3.1. Societal Challenges: Health, demographic change and well-being. Innovative Medicines Initiative 2 (IMI2) Joint Undertaking (JU).
- Barcelona Graduate School of Mathematics (BGSMaths) (MDM-2014-0445). Ministerio de Economía y Competitividad (Spain). PI: M. Noy
- Statistical methodologies for clinical and omics data and their applications in health sciences (PID2019-104830RB-I00). Ministerio de Ciencia e Innovación (Spain). PI: G. Gómez Melis
- Statistical methods for clinical trials, complex censoring schemes and integrative omics data analysis (MTM2015-64465-C2-1-R). Ministerio de Economía y Competitividad (Spain). PI: G. Gómez Melis
- Grup de recerca en bioestadística i bioinformàtica (GRBIO) (2017 SGR 622). Generalitat de Catalunya (Spain). PI: G. Gómez Melis
- Grup de recerca en bioestadística i bioinformàtica (GRBIO) (2014 SGR 464). Generalitat de Catalunya (Spain). PI: G. Gómez Melis
- BIOSTATNET (MTM2017-90568-REDT). Ministerio de Economía y Competitividad (Spain). PI: C. M. Cadarso Suárez
- STAT WARS: “El Imperio de los Datos” (FCT-18-12946). Ministerio de Economía y Competitividad (Spain). PI: C. M. Cadarso Suárez

- STAT WARS: el Despertar de los Datos (FCT-16-11015). Ministerio de Economía y Competitividad (Spain). PI: C. M. Cadarso Suárez

## TEACHING AND SUPERVISION

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### Teaching in the courses

- **Lifetime Data Analysis**, Master's degree in Statistics and Operations Research (MESIO UPC-UB). 2017-2018 (10 hours taught) and 2019-2020 (10h)
- **Advanced Topics in Survival Analysis**, MESIO UPC-UB. 2016-2017 (15h) and 2017-2018 (22.5h).
- **Introducción a la Inferencia Estadística**, Bachelor in Statistics (Grado Interuniversitario de Estadística UB-UPC). 2017-2018 (12h)
- **Probabilitat i Estadística**, Bachelor's degree in Informatics Engineering (FIB UPC). 2016-2017 (32h)
- **Basic Statistics for Biomedical Research**. Short course (September 2019) at Vall d'Hebron Institut de Recerca
- **Platform Trials**. Short course at International Conference on Multiple Comparison Procedures (MCP 2022)

### Supervision

- Co-supervision together with Prof. Martin Posch (Medical University of Vienna) in the Master's thesis: **Model-based adjustments for non-concurrent comparisons in platform trials** by Pavla Krotka, Master's programme in Data Science at the University of Vienna. (June 2023)
- Co-supervision together with Prof. Werner Brannath (University of Bremen) in the Master's thesis: **Online multiple testing with FWER control** by Lasse Fischer, Master Medical Biometry at the University of Bremen. (September 2022)
- Co-supervision together with Prof. Marta Fairén (UPC) in the Bachelor's thesis **Construcció d'un paquet R per l'estudi de variables binaries compostes** by Raquel Rovira, Bachelor in Statistics (UB-UPC). (2020)

## CONFERENCE PRESENTATIONS

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### Invited sessions at conferences

- VII Spanish Biometric Conference and the VII Ibero-American Biometric Meeting (CEB-EIB 2023)  
**M. Bofill Roig**. Oral presentation: Maximizing Efficiency in Platform Trials with Shared Controls: Optimal allocation strategies. Vigo (Spain), 27-30 June, 2023.
- Workshop Adaptive Designs and Multiple Testing Procedures 2023  
**M. Bofill Roig**. Oral presentation: Optimal allocation strategies for platform trials. Basel, April, 2023.
- The ASA Biopharmaceutical Section Regulatory-Industry Statistics Workshop 2021  
**M. Bofill Roig**. Oral presentation: Statistical Inference in Platform Trials with Non-Concurrent Controls. Washington (USA) - Online, September, 2021.
- XXXIInd Conference of the Austro-Swiss Region (ROeS) of the International Biometric Society  
**M. Bofill Roig**. Oral presentation: Treatment-control Comparisons in Platform Trials with Non-concurrent Controls. Salzburg (Austria), September, 2021.

### Invited talks at seminars

- Heidelberger Kolloquium Medizinische Biometrie  
**M. Bofill Roig**. Oral presentation: Statistical modelling for utilising non-concurrent controls in platform trials. Heidelberg, 17 July, 2023.
- Australian Trials Methodology (AusTriM) Research Network - Adaptive designs series  
**M. Bofill Roig**. Oral presentation: Non-Concurrent Controls in platform trials. Australia - Online, April, 2022.

## Contributed sessions at conferences

- 5th Conference of the Central European Network (CEN2023)  
**M. Bofill Roig**, M. Posch. Oral presentation: Adaptive selection of binary composite endpoints and sample size reassessment based on blinded data. Basel (Switzerland), 3-7 September, 2023.
- International Conference on Multiple Comparison Procedures (MCP 2022)  
**M. Bofill Roig**, M. Posch. Oral presentation: Methods for utilising non-concurrent controls in platform trials. Bremen (Germany), 30 August - 2 September, 2022.
- 31st International Biometric Conference (IBC2022)  
**M. Bofill Roig**, M. Posch. Oral presentation: Utilizing non-concurrent controls in platform trials in the presence of time trends. Riga (Latvia), 10-15 July, 2022.
- Adaptive Designs and Multiple Testing Procedures Workshop 2022  
**M. Bofill Roig**, M. Posch. Oral presentation: Model-based approaches for utilising non- concurrent controls in platform trials. Heidelberg (Germany), 29 June -1 July, 2022.
- XVIII Spanish Biometric Conference (CEB 2022)  
**M. Bofill Roig**, M. Posch. Oral presentation: Current statistical issues in platform trials for the evaluation of multiple treatments. Madrid (Spain), 25-27 May, 2022.
- Australian Trials Methodology Conference 2021  
**M. Bofill Roig**. Oral presentation: Valid inference when using non-concurrent controls in platform trials. Australia - Online, December, 2021.
- 42nd Annual Conference of the International Society for Clinical Biostatistics (ISCB 2021)  
**M. Bofill Roig**, G. Gómez Melis, M. Posch, F. Koenig. Oral presentation: Adaptive clinical trials with selection of composite endpoints and sample size reassessment. Lyon (France) - Online, July, 2021.
- IV Jornadas Científicas de Estudiantes de la Sociedad Española de Biometría (SEB) (IV-JJSEB)  
**M. Bofill Roig**, G. 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)  
**M. Bofill Roig**, G. Gómez Melis. Oral presentation: A general class of statistics for binary and survival outcomes. Leuven (Belgium), 14-18 July, 2019.
- XVII Spanish Biometric Conference and the VII Ibero-American Biometric Meeting (CEB-EIB 2019)  
**M. Bofill Roig**, G. 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)  
**M. Bofill Roig**, G. Gómez Melis. Oral presentation: Binary and survival joint test. Copenhagen (Denmark), 24-26 April, 2019.
- 4a Reunión General de BIOSTATNET  
**M. Bofill Roig**, G. Gómez Melis. Oral presentation: Binary and survival joint test. Santiago de Compostela (Spain), 25-26 January, 2019.
- XXIXth International Biometric Conference (IBC 2018)  
**M. Bofill Roig**, G. Gómez Melis. Oral presentation: Sample Size Derivation for Composite Binary Endpoints Accounting for Departures of the Anticipated Values. Barcelona (Spain), 8-13 July, 2018.
- III Jornadas Científicas de Estudiantes de la SEB (III-JJSEB).  
**M. Bofill Roig**, JL Jiménez. Oral presentation: Facing the challenges in clinical trials. Bilbao (Spain), January, 2018.
- XVI Spanish Biometric Conference (CEB 2017).  
**M. Bofill Roig**, G. 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.  
**M. Bofill Roig**, G. 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).  
**M. Bofill Roig**, G. 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).  
**M. Bofill Roig**, G. 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.  
**M. Bofill Roig**, G. Gómez Melis. Oral presentation: Sample size determination using composite binary endpoints. Santiago de Compostela (Spain), 20-21 January, 2017.
- II Jornadas Científicas de Estudiantes de la SEB (II-JJSEB).  
**M. Bofill Roig**, G. Gómez Melis. Oral presentation: The efficient choice of a primary binary endpoint for sample size assessment. Barcelona (Spain), 8-9 September, 2016.
- International Society for Clinical Biostatistics Conference 2016 (ISCB 2016).  
**M. Bofill Roig**, G. 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

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- Co-Chair of the *Adaptive Designs and Multiple Testing Procedures Joint Working Group*  
Section of the ROeS and the German Region of the IBS 2022–Present
- Member of the board of the Societat Catalana d'Estadística 2019–2022
- Member of the International Biometric Society (Spanish and ROeS regions)
- Member of the SEB-BIOSTATNET Mentoring Committee 2018–2022
- Member of the BIOSTATNET Spanish network

## PARTICIPATION IN RESEARCH EVENTS

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- Chair Local Organising Committee and Scientific Program Committee. Workshop Adaptive Designs and Multiple Testing Procedures, April 2024.
- 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.

## SKILLS

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- **Computer Languages:** fluent in R,  $\text{\LaTeX}$ ; some C, SAS, MINITAB, HTML

## LANGUAGES

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- **Spanish** and **Catalan:** Mother tongue
- **English:** Advanced Level (C1)