

JESSICA RODRÍGUEZ PEREIRA

CONTACT INFORMATION

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Universitat Pompeu Fabra
Department of Economics and Business
Ramon Trias Fargas 25-27,
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PROFESSIONAL AFFILIATIONS

- 2020-present **Department of Economics and Business, Universitat Pompeu Fabra. Barcelona, Spain.**
Postdoctoral researcher.
Barcelona Graduate School of Economics. Barcelona, Spain.
Postdoctoral researcher.
- 2018-2019 **Canada Research Chair in Distribution Management, HEC Montréal. Montréal, Canada.**
Postdoctoral researcher.
Centre Interuniversitaire de Recherche sur les Réseaux d'Entreprise, la Logistique et le Transport (CIRRELT). Montréal, Canada.
Postdoctoral researcher.
- 2014-2018 **Department of Statistics and Operation Research, Universitat Politècnica de Catalunya. Barcelona, Spain**
Researcher (PhD Student)
- 2013 **Chair UPC-Endesa Red Victoriano Muñoz Oms, Universitat Politècnica de Catalunya. Barcelona, Spain**
Internship.
- 2011 **Grupo Sacyr Vallehermoso. Val d'Aran, Spain.**
Internship (civil engineer manager assistant)
- 2010 **Department and Environmental Engineering, Universitat Politècnica de Catalunya. Barcelona, Spain.**
Internship.

EDUCATION

- 2018 **Ph.D. in Statistics and Operational Research.** Universitat Politècnica de Catalunya. Barcelona, Spain.
Thesis: New models and algorithms for several families of Arc Routing Problems.
Supervisors: Elena Fernández and Gilbert Laporte.
- 2013 **M.Sc. in Supply Chain, Transport and Mobility.** Universitat Politècnica de Catalunya. Barcelona, Spain.
- 2012 **Pg. in Management planning: planning, infrastructure, and environment.** Universitat Oberta de Catalunya. Spain.
- 2010 **B.Sc. Civil Engineering.** Universitat Politècnica de Catalunya. Barcelona, Spain.

VISITING POSITIONS

- 2019 **Universidad de Cadiz.** Cadiz, Spain. 1 week
- 2017 **Universität Heidelberg.** Heidelberg, Germany. 4 months.
- 2016 **CIRRELT.** Montréal, Canada. 3 months.

PERSONAL FELLOWSHIPS AND AWARDS

YoungWomen4OR. Selected as one of the 12 emerging women working in Operations Research in Europe by the EURO WISDOM forum (Women in Society: Doing Operational Research and Management Science). 2020.

Sciences PhD Extraordinary Award, 2017-2018. Universitat Politècnica de Catalunya. 2020.

Finalist 2nd EUREKATHON: Challenging Data for Zero Hunger. Member of the BARG@UPF team who was a finalist in the 2nd Eurekathon, data-based competition. 2020.

SOLA Student Best Paper Award for the paper titled "Exact Solution of Several Families of Location-Arc Routing Problems", from the Location Analysis INFORMS Society (SOLA). 2019.

Postdoctoral. Canada Research Chair in Distribution Management. 2018-2019.

Mobility Fellowship (Ayuda a la movilidad predoctoral para la realización de estancias breves en centros de I+D durante el año 2017). Spanish Ministry of Economy and Competitiveness. 2017.

Mobility Fellowship (Ayuda a la movilidad predoctoral para la realización de estancias breves en centros de I+D durante el año 2016). Spanish Ministry of Economy and Competitiveness. 2016.

FPI Fellowship (Ayuda para contratos predoctorales para la formación de doctores). Spanish Ministry of Economy and Competitiveness. 2014-2018.

PUBLICATIONS

• BOOKS

- [1] (2019) M. Albareda-Sambola and J. Rodríguez-Pereira. Location-Routing and Location-Arc Routing in Location Science. Eds: G. Laporte, S. Nickel and F. Saldanha da Gama. Springer. 431-451. DOI: 10.1007/978-3-030-32177-2.

• JOURNAL PUBLICATIONS

- [1] (2021) J. Rodríguez-Pereira, B. Balciik, M.È. Rancourt and G. Laporte. A Cost-Sharing Mechanism for Multi-Country Partnerships in Disaster Preparedness. *Production and Operations Management* (Accepted, available online). DOI: 10.1016/j.ejor.2019.04.047.
- [2] (2021) J. Rodríguez-Pereira and G. Laporte. The target visitation arc routing problem. *TOP* (Accepted, available online). DOI: 10.1007/s11750-021-00601-5.
- [3] (2021) J. de Armas, J. Rodríguez-Pereira, B. Vieira and H. Ramalhinho. Optimizing Assistive Technology Operations for Aging Populations. *Sustainability* 13:12. 6925. DOI: 10.3390/su13126925.
- [4] (2020) J. Rodríguez-Pereira, J. de Armas, L. Garbujo and H. Ramalhinho. Health Care Needs and Services for Elder and Disabled Population: Findings from a Barcelona Study. *International Journal of Environmental Research and Public Health* 17:21, 8071. DOI: 10.3390/ijerph17218071.
- [5] (2019) J. Rodríguez-Pereira, E. Fernández, G. Laporte, E. Benavent and A. Martínez-Sykora. The Steiner Traveling Salesman Problem and Its Extensions. *European Journal of Operation Research* 278:2,615-628. DOI: 10.1016/j.ejor.2019.04.047.
- [6] (2019) J. Rodríguez-Pereira, E. Fernández, G. Laporte, E. Benavent and A. Martínez-Sykora. Steiner Traveling Salesman Problems: when not all vertices have demand. *Proceedings of the IX International Workshop on Locational Analysis and Related Problems*.
- [7] (2019) E. Fernández, G. Laporte, and J. Rodríguez-Pereira. Exact Solution of Several Families of Location-Arc Routing Problems. *Transportation Science* 53:5, 1213-1499. DOI: 10.1287/trsc.2018.0881.
- [8] (2018) E. Fernández, G. Laporte, and J. Rodríguez-Pereira. A branch-and-cut algorithm for the multi-depot rural postman problem. *Transportation Science* 52:2, 353-369. DOI: 10.1287/trsc.2017.0783.
- [9] (2017) E. Fernández and J. Rodríguez-Pereira. Multi-depot rural postman problems. *TOP* 25, 340-372. DOI: 10.1007/s11750-016-0434-z.
- [10] (2016) E. Fernández, G. Laporte, and J. Rodríguez-Pereira. A branch-and-cut algorithm for the multi-depot rural postman problem. *Proceedings of the 19th International Multiconference Information Society – IS 2016, Volume H*, 51-53.

• JOURNAL PAPERS UNDER REVIEW

- [1] (2021) G. Laporte, M.È. Rancourt, J. Rodríguez-Pereira and S. Silvestri. Optimizing access to drinking water in remote areas. Application to Nepal. *Computers and Operations Research*.

PRESENTATIONS AND INVITED LECTURES

• CONFERENCE CONTRIBUTIONS

- 2021 **Applied Network Design Problems to Support Social Good.** 31st European Conference on Operational Research (EURO, 2021). Athens, Grece. (July).
Location of Water Taps and Design of a Water Distribution Network in Nepal. International Symposium on Locational Decisions (ISOLDE, 2021). Online. (July).
- 2020 **Cost Sharing Mechanisms for Multi-country Partnerships in Disaster Preparedness.** 2020 INFORMS Annual Meeting (INFORMS, 2020). Online. (November).

- 2019 **Exact Solution of Several Families of Location-Arc Routing Problems.** 2019 INFORMS Annual Meeting (INFORMS, 2019). Seattle, United States. (October).
- New Steiner Travelling Salesman Problem Formulation and its Multi-Depot Extension.** Workshop of the EURO Working Group on Vehicle Routing and Logistics Optimization (VeRoLog, 2019). Sevilla, Spain. (June).
- New Steiner Travelling Salesman Problem Formulation and its Location Extension.** Optimization Days 2019 (OPTD, 2019). Montréal, Canada. (May).
- Steiner Travelling Salesman Problems: when not all vertices have demand.** IX International Workshop on Locational Analysis and Related Problems (IWOLOCA, 2019). Cadiz, Spain. (January).
- 2018 **Models and solution algorithms for Location-Arc Routing Problems.** 7th International Workshop on Freight Transportation and Logistics (ODYSSEUS, 2018). Cagliari, Italy. (June).
- Exact solution of Location-Arc Routing Problems.** XXXVII Congreso Nacional de Estadística e Investigación Operativa (SEIO, 2018). Oviedo, Spain. (May).
- The Clustered Target-Visitation Arc-Routing Problem.** Optimization Days 2018 (OPTD, 2018). Montréal, Canada. (May).
- 2017 **Formulations for Location-Arc Routing Problems.** 21st Conference of the International Federation of Operational Research (IFORS, 2017). Quebec City, Canada. (July).
- 2016 **A Branch-and-Cut algorithm for the Multi-Depot Rural Postman Problem.** Middle-European Conference on Applied Theoretical Computer Science (MATCOS, 2016). Koper, Slovenia. (September).
- Formulation and exact solution of the Multi-Depot Rural Postman Problem.** 2nd Workshop on Arc Routing Problems (WARP, 2016). Lisboa, Portugal. (May).
- Undirected Multi-Depot Rural Postman Problem.** Optimization Days 2016 (OPTD, 2016). Montréal, Canada. (May).
- 2015 **Multi-Depot Rural Postman Problem.** Workshop on Combinatorial Optimization, Routing and Location (CORAL, 2015). Salamanca, Spain. (September)
- Multi-Depot Rural Postman Problem.** XXXV Congreso Nacional de Estadística e Investigación Operativa (SEIO, 2015). Pamplona, Spain. (May)

- **KEYNOTES**

- 2019 **Applied network design problems to support humanitarian operations.** II Symposium on Humanitarian Logistics & Disruptive Supply Chains. Chia, Colombia. (November).

- **SEMINARS**

- 2017 **Target-Visitation Arc-Routing Problems.** Universität Heidelberg. (Germany).

PARTICIPATION IN FUNDED RESEARCH PROJECTS

Healthcare Mobility - an optimization approach. UPF Planetary Wellbeing grant, 2021-2022.

Humanitarian Supply Chain Analytics. Apogée Canada (IVADO fundamental research projects grants), 2020-2022.

OptCareServices: Logistics Optimization for the Home Health and Social Care Services. Spanish Ministry of Economy and Competitiveness (RTI2018-095197-B-I00), 2020-2022.

Analytics and optimization in a digital humanitarian context. Apogée Canada (IVADO fundamental research projects grants), 2018-2020.

Distribution Management: Canada Research Chair in Distribution Management, 2018-2020.

Humanitarian Logistics. Natural Sciences and Engineering Research Council of Canada (Discovery Grants Program) (2014-03945), 2018-2019.

Red Temática: Localización y Problemas Afines. Spanish Ministry of Economy and Competitiveness. (MTM2016-81874-REDT), 2017-2019.

DO-ILT: Discrete Optimization for Integrated Logistics and Transportation Problems. Spanish Ministry of Economy and Competitiveness. (MTM2015-63779-R), 2016-2019.

Red Temática: Localización y Problemas Afines. Spanish Ministry of Economy and Competitiveness. (MTM2014-53828-REDT), 2014-2016.

OPTIMOS3: Mathematical Programming models and methods and their applications. Spanish Ministry of Economy and Competitiveness. (MTM2012-36163-C06-05), 2013-2015.

TEACHING EXPERIENCE

Quantitative Methods for Decision Making. Degree in Business-Management. Universitat Pompeu Fabra (2020 - present).
Applied Optimization Techniques. Degree in Business-Management. Universitat Pompeu Fabra (2020).
Operation Management. Degree in International Business Economics and Degree in Business Management and Administration. Universitat Pompeu Fabra (2019 - present).
Vehicle Routing. Master in Supply Chain, Transport and Mobility. Universitat Politècnica de Catalunya (2014 - 2018).
Discrete Network Models. Master in Statistics and Operation Research. Universitat Politècnica de Catalunya (2014 - 2017).
Integer and Combinatorial Optimization. Master in Statistics and Operation Research. Universitat Politècnica de Catalunya (2015 - 2017).
Models and Methods from Operations Research. Master in Statistics and Operation Research. Universitat Politècnica de Catalunya (2017 - 2018).

ADVISING

Master Thesis. Pre- and post-disaster logistics capacity assessment for Jamaica and Bahamas in collaboration with Caribbean Disaster Emergency Management Agency (CDEMA). Dani Heroux. Master in Global Supply Chain Management. HEC Montréal. 2019.
Master Thesis. Diseño de una red biconexa: aplicación a la distribución de agua potable. Marta Cardona Pía. Master in Statistics and Operation Research. Universitat Politècnica de Catalunya. 2018.
Master Thesis. Solution of a multi-depot multi-vehicle network using column generation. Alejandro Arenas Vasco. Master in Statistics and Operation Research. Universitat Politècnica de Catalunya. 2018

ACCREDITATIONS

Associate Professor. (*Profesor Ayudante Doctor*). ANECA- Agencia Nacional de Evaluación de la Calidad y Acreditación. 2021.

OTHER SERVICES

Master thesis committee. Master in supply chain, Transport and Mobility. Universitat Politècnica de Catalunya. 2015-2016
Peer-Reviewed articles. TOP, Socio-Economic Planning Sciences.

LANGUAGES

Catalan: native language.
Spanish: native language.
Aranes: native language.
English: fluent.

July 2021