Ricardo Gázquez Torres

Curriculum Vitae

Personal Information

Address: C/Boca la Pesca N7, 18151 Ogíjares, Granada, Spain

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Date of Birth: September 4, 1994

Languages: Spanish, English

Education

05/2022 **PhD in Mathematics**, *University of Granada*
Operation Research (OR). Supervisor: Víctor Blanco.
Title: *Advances and applications in Continuous Location and Related Problems.*
We study problems related to continuous location problems, and applications of location theory in other areas such as covering problems, distribution on network, multi-facility location.
Extensive knowledge in optimization problems.

09/2020 **Master's degree in Secondary-School Teacher**, *University of Granada*
Master's thesis: *Innovative Mathematics Project: Fair of Mathematics.*
Study of different methodologies such as Gamification, Cooperative Learning and Peer Learning, their applications in mathematics and to meet student diversity in a classroom, and their incorporation in an annual innovation project.

07/2019 **Master's degree in Mathematics**, *University of Granada*
Master's thesis: Analysis of financial networks.
Application of Minimum Spanning Tree (MST) in financial networks to predict their behaviour. Solution of possible uncertainty with optimization techniques: Integer Linear Programming (ILP) and Mixed Integer Linear Programming (MILP) in Python with optimization libraries.

09/2018 **Bachelor's degree in Mathematics**, *University of Granada*
Specialized in statistics: Multivariate statistics, stochastic processes and computational statistics.
Degree's thesis: *Introduction to subdivision and post-processed techniques for the generation of animated images.*
Subdivision of surfaces to the application for the creation of animated images. Uses of B-Splines to curves subdivision schemes. Uses of meshes to surface subdivision.

Employment

09/2022– **Researcher**, *University of Málaga*, Spain
Present OASYS Research Group.

01/2020– **Researcher**, *University of Granada*, Spain
12/2021 Garantía juvenil in I+D+I (2 years).

03/2019– **Risk Data Scientist**, *Axesor Conocer para Decidir, S.A.*, Granada
12/2019 Ícaro Scholarship of UGR and Intalentia Training Program.

Teaching

02/2022 **Interim Lecturer**, *University of Sevilla*, Spain
Lecturer in Dpt. Applied Economics I, Quantitative Methods for Economics & Business field.

03/2022– **Interim Lecturer**, *University of Málaga*, Spain
08/2022 Lecturer in Dpt. Mathematical analysis, Statistics and Operations Research, and Applied Mathematics, Statistics and Operational Research field.

Research stays

09/2021– **Centro de Matemática, Aplicações Fundamentais e Investigação Operacional**
12/2021 **(CMAFcIO)**, *Faculty of Science, University of Lisbon*, Portugal
Dates: September 8 – December 23 (107 days).
Supervisor: Prof. Francisco Saldanha da Gama.

Research grants and scientific projects

Research grants

10/2021 *Programa de Becas de Movilidad entre Universidades Andaluzas e Iberoamericanas 2020*, Asociación Universitaria Iberoamericana de Postgrado (AUIP).

01/2020– *Garantía juvenil*, Spanish Ministry of Education and Science grant number: PEJ2018-
12/2021 002962-A.

Scientific projects

09/2021– Optimization on data science and network design problems: Large scale network
Present models meet optimization and data science tools. Plan Estatal 2017-2020 Generación Conocimiento - Proyectos I+D+i. Principal Investigators: Justo Puerto and Víctor Blanco. Ref: PID2020-114594GB-C21.

07/2021– Analysis of Complex Networks under Modern Optimization and Statistical Lens
Present (COXMOS). Proyectos I+D+i del Programa Operativo FEDER 2020. Principal Investigators: Víctor Blanco and Justo Puerto. Ref: B-FQM-322-UGR20.

Articles and preprints

Articles

1. Blanco, V., Gázquez, R., & Saldanha-da-Gama, F. (2022). Multi-type Maximal Covering Location Problems: Hybridizing discrete and continuous problems, *European Journal of Operational Research*, `https://doi.org/10.1016/j.ejor.2022.10.037`.
2. Blanco, V., Gázquez, R., & Leal, M. (2022). Mathematical optimization models for reallocating and sharing health equipment in pandemic situations. *TOP*. `https://doi.org/10.1007/s11750-022-00643-3`
3. Blanco, V., Gázquez, R., Ponce, D., & Puerto, J. (2022). A Branch-and-Price approach for the Continuous Multifacility Monotone Ordered Median Problem, *European Journal of Operational Research*, `https://doi.org/10.1016/j.ejor.2022.07.020`.
4. Blanco, V. & Gázquez, R. (2021). Continuous maximal covering location problems with interconnected facilities, *Computers & Operations Research*, 132, 105310, `https://doi.org/10.1016/j.cor.2021.105310`.

Preprints

○ Blanco, V. & Gázquez, R. (2022). Fairness in Maximal Covering Location Problems. (arXiv preprint arXiv:2204.06446)

Conference presentations, seminars

2022 (Course)	Invited speaker, as one of 28 laureates, at "EURO Summer Institute on Location Science" in Edinburgh presenting *Discrete-continuous maximal covering location under uncertainty*.
2022 (Conference)	Speaker at "39th Spanish Conference on Statistics and OR and the 13th Days of Official Statistics" in Granada, presenting *Multitype Maximal Covering Location Problems: Hybridizing discrete and continuous problems*.
2022 (Seminar)	Speaker at "OASYS Research Group" in Málaga, presenting *Continuous Maximal Covering Location Problems and related problems*.
2022 (Conference)	Speaker at "XI International Workshop on Locational Analysis and Related Problems, IWOLOCA 2022" in Elche by REDLOCA, presenting *Fairness in Maximal Covering Facility Location Problems*.
2021 (Symposium)	Presentation at "Software libre en la docencia universitaria del área de métodos cuantitativas: aplicaciones y posibilidades" presenting *Econometría con python y jupyter notebooks*.
2021 (Conference)	Speaker at "International Symposium on Locational Decisions, ISOLDE XV" by University of Wuppertal, presenting *A Branch and Price Approach for the Multifacility Continuous Monotone Ordered Median Location Problem*.
2021 (Seminar)	Speaker at "Advances on logistics and transportation problems on complex networks: Evaluation and conclusions" by University of Sevilla, presenting *New advances in Covering Location and related problems*.
2021 (Seminar)	Speaker at "Seminario de Investigación" by Dpt. Quantitative Methods for Economics & Business, University of Granada, presenting *Reallocating and sharing health equipment in sanitary emergency situations: The COVID-19 case in Spain*.

2021 (Seminar)	Speaker at "Reunión de seguimiento del proyecto BBVA y MTM 2016" by University of Sevilla, presenting *New models in Continuous Maximal Covering Location Problem*.
2021 (Conference)	Speaker at "First annual congress of doctorate Students" by The Miguel Hernández University, presenting *Reallocting and sharing health equipment in sanitary emergency situations: The COVID-19 case in Spain*.
2020 (Seminar)	Speaker at "Matemáticas de la COVID 2nd session" by IMUS (Instituto de Matemáticas Universidad de Sevilla), presenting *Reallocating and sharing health equipment in the COVID-19 crisis*.
2020 (Seminar)	Speaker at "III Jornada de Salidas Profesionales" by Orientamat, presenting *Mi experiencia tras el grado de Matemáticas*.

Organization of dissemination events

2022	Member of the organizing committee of *"39th Spanish Conference on Statistics and OR and the 13th Days of Official Statistics"*, Granada.

Courses

2022	*EURO Summer Institute on Location Science*, University of Edinburgh.
2021	*Discrete optimization in network design*, University of Cádiz.
2020	*Autumn School on Bilevel Optimization*, University of Trier.
2020	*Cálculo Estocástico y Técnicas de Análisis Multivariante. Fundamentos y aplicaciones en Ciencias Experimentales*, Escuela Posgrado UGR.
2020	*Python aplicado a la Investigación Científica y Tecnológica*, Asociación Darwin Eventur.

Reviewer in research journals

EJOR	Referee in European Journal of Operational Research (EJOR).
COR	Referee in Computers & Operations Research (COR).

Other information

2021	Contest Ramiro-Melendreras award in XXXIX Spanish Conference on Statistics and Operational Research.
2019	Contest RSME-UGR Master thesis 2019.
2018	Contest Finalist BIG IDEAS. *Línea Directa*, Madrid.