Part A. PERSONAL INFORMATION

		CV date	03/07/2022

First and Family name	Raúl Martín Martín
Social Security, Passport, ID number	▉▉▉▉▉▉ Age ▉

Researcher codes	Open Researcher and Contributor ID (ORCID**)	0000-0001-9237-9238
	SCOPUS Author ID (*)	17346167900
	WoS Researcher ID (*)	F-2331-2016

(*) Optional
(**) Mandatory

A.1. Current position

Name of University/Institution	University of Castilla-La Mancha
Department	Mathematics
Address and Country	Ave. Carlos III, s/n, 45004 Toledo, Spain
Phone number	XXXXXX E-mail Raul.MMartin@uclm.es
Current position	Associate Professor in Statistics and Operation Research From 2017
Key words	Optimal Experimental Designs, Algorithms

A.2. Education

PhD, Licensed, Graduate	University	Year
Licensed	Complutense University of Madrid	2002
PhD	University of Castilla-La Mancha	2006

Part B. CV SUMMARY

Having completed a Degree in Mathematics at the Complutense University, Madrid, specialising in Statistics and OR, I became an assistant professor at the Pontifical University of Salamanca, where I began my career in teaching and research. At the same time, I began my doctoral studies, under the supervision of Dr. J. López-Fidalgo, on "**Optimal experimental design (OED) for uncontrolled variables**" at the University of Salamanca (USAL). In 2006 I was awarded my doctorate, with a European mention, by the University of Castilla-La Mancha (UCLM). After defending my doctoral thesis, I joined the UCLM, at the Ciudad Real Campus. During this period, I was awarded a number of scholarships (one from the "José Castillejo" programme) to undertake both pre- and post-doctoral research placements. On several occasions, as shown by the published papers, I visited Dr. Ben Torsney at the University of Glasgow (UG), with whom I worked on the calculation of optimal design through algorithms, based on the **multiplicative algorithm**. This has been my main line of work. I have proposed algorithms for determining approximate OEDs for several independent variables, and to the computation of exact OEDs. Another research group I had the opportunity to work with was the OED group at Vienna University of Economics and Business. This relationship was reinforced by an "Integrated Action" between Spain and Wien, called "**Algorithms for computing OEDs for uncontrolled independent variables**".

Over the last 20 years, I have worked on projects supported by international, national, regional and local governments. In particular I have been part of 27 research projects and I was lead researcher on 2 nat., 2 reg. and 6 local projects. These projects have allowed me to carry out and direct research projects, broadening cooperation with other national and international universities, authoring or co-authoring scientific papers and contributions to conferences. Among other research activities, I am a reviewer for prestigious journals in the field of Statistics included in the JCR: JASA, Communications in Statistics (Theory and Methods), (Simulation and Computation), etc. With regard to R&D activities, the organisation of 2 international, 2 national and several regional conferences, as well as participation in the scientific committee of several conferences, should be highlighted.

I have supervised the doctoral thesis "**Optimal design for mixtures: analytical methodology and numerical algorithms for the calculation of robust optimal designs**". Part of this work

was carried out during a stay at the University of Alberta (UA) with Prof. Douglas Wiens. I am currently co-supervising two other doctoral theses, one in the physics and mathematics doctoral programme and the other in health sciences program. One of them is about a new line of research together, with the Prof. of Electrical Engineering, J.L. Polo Sanz (UCLM), for the **identification of systems in corrosion processes and the characterisation of biological tissues**.

Part C. RELEVANT MERITS

C.1. Publications (last 10 years)

1.- Sebastià Bargues À.; Polo Sanz, J.L.; Martín Martín, R. (2022) Optimal Experimental Design for Parametric Identification of the Electrical Behaviour of Bioelectrodes and Biological Tissues. Mathematics: 10(5):837. IF: 2.592; Q1 in General Mathematics.

2.- Cáceres Rodríguez, C; Yepes García, I; Sebastià Bargues, Ángela; Martín Martín, R. (2022). ¿Cómo vivieron las personas con discapacidad la crisis de la covid-19? El caso de las personas apoyadas por entidades tutelares en España. Siglo Cero Revista Española Sobre Discapacidad Intelectual, *53*(2), 41–60. SJR, Q3 in Education and Psychology.

3.- Rivas-López, M.J.; Martín-Martín R.; García-Camacha Gutiérrez, I. (2022) Recent Advances in Robust Design for Accelerated Failure Time Models with Type I Censoring. Mathematics: 10(3):379. IF: 2.592; Q1 in General Mathematics.

4.- Tapiaddor, Francisco J.; Navarro, Andrés.; Martín, Raúl.; Hristova-Veleva, Svetla; Haddad, Ziadd S. (2022) Preddicting Tropial Cyclone Rapidd Intensification from Satellite Microwave Data and Neural Networks: IEEE Transactions on Geoscience and Remote Sensing: 60, 1-13, 4205213. IF: 8.125; Q1 in Engineering, Electrial & Electronic, Remote Sensing, Geochemistry & Geophysics and Imaging Science & Photographic Technology.

5.- Tapiador, Francisco J.; Villalba-Pradas, Anahi; Navarro, Andres; Martin, Raul; Merino, Andres; Garcia-Ortega, Eduardo; Luis Sanchez, Jose; Kim, Kwonil; Lee, Gyuwon (2021). A Satellite View of an Intense Snowfall in Madrid (Spain): The Storm 'Filomena' in January 2021: Remote Sensing: 13(14), 2702. IF: 4.84 ; Q1 in Geosciences, multidisciplinary.

6.- García-Camacha Gutiérrez, Irene; Martín Martín, Raúl; Sanz Argent, Josep (2020). Optimal-robust selection of a fuel surrogate for homogeneous charge compression ignition modeling: Plos One. 15(6): e0234963. IF: 2.74; Q2 in Multidisciplinary Science.

7.- Martín-Martín, Raúl; García-Camacha, Irene; Torsney, Ben (2019). Efficient algorithms for constructing D- and I- optimal exact designs for linear and non-linear models in mixture experiments. Statistics and Operations Research Transactions *(SORT)*: 43(1); 163-190. IF: 0.778; Q3 in Statistics & Probability.

8.- López-Fidalgo, Jesús; Martín-Martín, Raúl; Rodríguez -Hernández, Mercedes (2019). Estimators and D-optimal experimental designs for mixtures of binary responses. Communications in Statistics – Simulation and Computation: 1-14. IF: 0.651; Q4 in Statistics & Probability.

9.- Tommasi, Chiara; Martín-Martín, Raúl; López-Fidalgo, Jesús (2016). Max-min optimal discriminating designs for several statistical models. Statistics and Computing: 26; 1163-1172. IF: 2.051; Q1 in Statistics & Probability.

10.- Tapiador, F.J (AC).; Navarro, A.; Moreno, A. … De Castro, Manuel (9/11). (2016). On the Optimal Measuring Area for Pointwise Rainfall Estimation: A Dedicated Experiment with 14 Laser Disdometers. Journal of Hydrometeorology: 18; 753-760. IF: 3.641; Q1 in Meteorology & Atmospheric Science.

11.- Martín-Martín, Raúl; García-Camacha, Irene (2015). Combined algorithm to compute D-optimal designs. Journal of Computational and Applied Mathematics: 278; 248-257. IF: 1.328; Q1 in Mathematics, Applied.

12.- Amo-Salas, Mariano; Martín-Martín, Raúl; Rodríguez-Aragón, Licesio J. (2014). Design of experiments for zeroth and first-order reaction rates. Biometrical Journal: 56 (5), 792-807. IF: 0.9450; Q2 in Statistics & Probability.

13.- Martín-Martín, Raúl; Dorta-Guerra, Roberto; Torsney, Ben (2014). Multiplicative algorithm for discriminating between Arrhenius and non-Arrhenius behavior. Chemometrics and Intelligent Laboratory Systems: 139;146-155. IF: 2.321; Q1 in Statistics & Probability.

14.- Martín-Martín, Raúl; Rodríguez-Aragón, Licesio J.; Torsney, Ben (2012). Multiplicative algorithm for computing D-optimum design for pVT measurements. Chemometrics and Intelligent Laboratory Systems: 111 (1); 20 – 27. IF: 2.291; Q1 in Statistics & Probability.

C.2. Research projects (last 10 years)

1-**Reference Code**: SBPLY/21/180501/000126
Title: Estrategias de planificación óptima de procesos industriales, agroalimentarios, de salud y calidad de vida. **Funding Agency**: Consejería de Educación, Cultura y Deportes. Junta de Comunidades de Castilla-La Mancha. **Call:** Proyectos de investigación científica y transferencia de tecnología, cofinanciados por el FEDER. **IP:** Dr. Mariano Amo Salas (UCLM) y Dra. Irene García-Camacha Gutiérrez (UCLM). **Project duración:** 01/09/2022 – 01/09/25. **Responsability:** Member of the research team.

2-**Reference Code**: PID2020-113443RB-C21
Title: Diseños experimentales en investigación industrial, salud y tratamiento de grandes cantidades de datos. **Funding Agency:** Ministerio de Ciencia e Innovación. **Call:** Proyectos de I+D+i – RTI Tipo Coord. **IP:** Dr. Jesús López Fidalgo (UNAV) y Dr. Raúl Martín Martín (UCLM). **Project duración:** 01/09/2021 - 2024. **Responsability:** Investigador principal.

3-**Reference Code**: SBPLY/17180501/000380
Title: Diseño óptimo de experimentos aplicado a la industria agroalimentaria, farmacéutica y metalmecánica. **Funding Agency:** Consejería de Educación, Cultura y Deportes. Junta de Comunidades de Castilla-La Mancha. **Call:** Proyectos de investigación científica y transferencia de tecnología, cofinanciados por el FEDER (D.O.C.M. núm 134 de 12/07/2017) **Principal Investigator:** Dr. Raúl Martín Martín (UCLM) y Dr. Mariano Amo Salas (UCLM). **Project duration:** 01/09/2018 - 18/11/2021. **Responsibility:** Principal Investigator

4-**Reference Code**: MTM2016-80539-C2-1-R
Title: Diseño óptimo de experimentos aplicado a la salud y a la investigación en seguridad. **Funding Agency:** Ministerio de Economía, Industria y Competitividad. **Call:** Proyectos de I+D del Programa Estatal de Investigación, Desarrollo e Innovación Orientada a los Retos de la Sociedad (marco del Plan Estatal 2013-2016) **Principal Investigator:** Dr. Raúl Martín Martín (UCLM) y Dr. Mariano Amo Salas (UCLM). **Project duration:** 30/12/2016 - 18/09/2021. **Amount of funding:** 100.067,00 € **Responsibility:** Principal Investigator

5-**Ref**: MTM2015-69068-RDT
Title: Biostatnet: Afrontando retos de investigación bioestadística con proyección internacional. **Funding Agency:** Ministerio de Economía y Competitividad. **Call:** Acciones de dinamización "Redes de Excelencia" 2015. **Principal Investigator:** Dra. Carmen Cadarso Suarez (Universidad de Santiago de Compostela) **Project duration:** 01/01/2016 - 31/12/2017. **Responsability:** Member of the research team.

6-**Ref**: MTM2013-47879-C2-1-P
Title: Diseños experimentales para modelos no lineales con aplicaciones a la ciencia y a la ingeniería. **Funding Agency:** Ministerio de Economía y Competitividad. **Call:** Programa Estatal de Fomento de la Investigación Científica y Técnica de Excelencia 2013. **Principal Investigator:** Dr. Jesús López Fidalgo (UCLM) **Project duration:** 01/01/2014 - 31/12/2017. **Responsability:** Member of the research team.

7-**Ref**: MTM2010-20774-C03-01-P
Title: Diseño óptimo de experimentos para modelos no lineales con aplicaciones a la bioestadística, medioambiente, biocinética, ingeniería, ciencias agrarias y ciencias sociales. **Funding Agency:** Ministerio de Ciencia e Innovación. **Call:** Programa Estatal de Fomento de la Investigación Científica y Técnica de Excelencia 2010. **Principal Investigator:** Dr. Jesús López Fidalgo (UCLM) **Project duration:** 01/01/2011 - 31/12/2014. **Responsability:** Member of the research team.

8-**Ref**: PEII10-0291-1850
Title: Construcción de diseños óptimos para modelos no lineales. **Funding Agency:** Junta de Comunidades de Castilla-La Mancha. Consejería de Educación y Ciencia. **Call:** Plan Regional de Investigación Científica, Desarrollo Tecnológico e Innovación de Castilla-La Mancha. **Principal Investigator:** Dr. Jesús López Fidalgo (UCLM)

Project duration: 01/04/2010 - 31/03/2013. **Responsability:** Member of the research team.

C.3. Prentations (**last 5 years**)

1.- Congress/conference/workshop: XXXIX Congreso Nacional de Estadística e Investigación Operativa y XIII Jornadas de Estadística Pública.**Title:** Diseños D-óptimos exactos y aproximados para modelos fraccionarios de impedancia eléctrica.
Authors: À. Sebastià Bargues, J.L. Polo, R. Martín-Martín**. Date:** 2022.
2.- Congress/conference/workshop: I Encuentro virtual en Diseño Óptimo de Experimentos. **Title:** Nuevos avances en la construcción de diseños óptimo-robustos para modelos de tiempo de fallo acelerado en observaciones censuradas por la derecha.
Auhors: I. García-Camacha Gutiérrez, M.J. Rivas López, R. Martin-Martin. **Date:** 2021.
3.- Congress/conference/workshop: I Encuentro virtual en Diseño Óptimo de Experimentos. **Title:** Diseños D-óptimos para modelos de impedancia eléctrica.
Authors: A. Sebastià Barguès, R. Martín Martín, J.L. Polo Sanz**. Date:** 2021.
4.- Congress/conference/workshop: V Jornadas Científicas de Estudiantes de la Sociedad Española de Bioestadística. **Title:** Development of robust designs for accelerated failure time models with Type I censoring. **Authors:** I. García-Camacha Gutiérrez, M.J. Rivas López, R. Martin-Martin. **Date** 2021.
5.- Congress/conference/workshop: V Jornadas Científicas de Estudiantes de la Sociedad Española de Bioestadística. **Title:** Optimal experimental design for parametric identification in electrical impedance models. **Authors:** À. Sebastià Barguès, R. Martín Martín, J.L. Polo Sanz.
6.- Congress/conference/workshop: V Congreso de Jóvenes Investigadores en Diseño Óptimo de Experimentos y Bioestadística. **Title:** Nuevos avances en la construcción de diseños óptimo-robustos para modelos de tiempo de fallo acelerado en observaciones censuradas por la derecha. **Authors:** I. García-Camacha Gutiérrez, M.J. Rivas López, R. Martin-Martin. **Date:** 2021.
7.- Congress/conference/workshop: Workshop 2020, Statistics and Innovation for Industry 4.0. **Title:** Development of Model-Robust Designs for accelerated failure time models with Type I censoring. **Authors:** I. García-Camacha Gutiérre, M.J. Rivas López, R. Martín Martín. **Date:** 2020.
8.- Congress/conference/workshop: 3rd Bymat Conference. **Title:** Optimal experimental design for parametric identification in electrical impedance models. **Authors:** A. Sebastià Barguès, R. Martín Martín, J.L. Polo Sanz. **Date:** 2020.
9.- Congress/conference/workshop: Workshop 2020: Statistics and innovation for industry 4.0. **Title:** Optimal experimental design for parametric identification in electrical impedance models. **Authors:** A. Sebastià Barguès, R. Martín Martín, J.L. Polo Sanz. **Date:** 2020.
10.- Congress/conference/workshop: 13th International Conference of the ERCIM WG on Computational and Methodological Statistics and 14th International Conference on Computational and Financial Econometrics. **Title:** Development of Model-Robust Designs for accelerated failure time models with Type I censoring. **Authors:** I. García-Camacha Gutiérrez, M.J. Rivas López, R. Martín Martín. **Date:** 2020.
11.- Congress/conference/workshop: XXXVIII Congreso Nacional de Estadística e Investigación Operativa y las XII Jornadas de Estadística Pública. **Title:** Robustez del diseño para modelos de tiempo de fallo acelerado con Censura tipo I. **Authors:** M.J. Rivas López, R. Martín Martín, I. García-Camacho Gutiérrez. **Date:** 2019.
12.- Congress/conference/workshop: 30th European Conference on Operational Research. **Title:** Optimal robust designs for accelerated failure time models with right censored observations. **Authors:** R. Martin-Martin, M.J. Rivas López, I. García-Camacha Gutiérrez. **Date:** 2019.
13.- Congress/conference/workshop: Eighth International Conference on Risk Analysis and Design of Experiments. **Title:** Robustness of design for accelerated failure time models with Type I censoring. **Authors:** R. Martín Martín, M.J. Rivas López, I. García-Camacha Gutiérrez **Date:** 2019.
14.- Congress/conference/workshop: IV Jornadas Científicas de Estudiantes de la Sociedad Española de Biometría. **Title:** Robustness of design for accelerated failure time

models with Type I censoring. **Authors:** I. García-Camacha Gutiérrez, M.J. Rivas López, R. Martín Martín. **Date:** 2019.

15. Congress/conference/workshop: 12th model-Oriented Data Analysis and Optimum Design. **Title:** Optimal-Robust selection of a diesel fuel surrogate for homogeneous charge compression ignition modeling. **Authors:** I. García-Camacha Gutiérrez, R. Martín Martín, J. Sanz-Argent **Date:** 2019.

16.- Congress/conference/workshop: 4ª Reunión General de BIOSTATNET. **Title:** optimal-Robust selection of a diesel fuel surrogate for HCCI autoignition modeling. **Authors:** R. Martín Martín, I. García-Camacha Gutiérrez. **Date:** 2019.

17.- Congress/conference/workshop: XXXVII Congreso Nacional de la Sociedad de Estadística e Investigación Operativa. **Title:** Robust designs over a L2-neighbourhood of the experimenter's assumed response in mixture experiments. **Authors:** I. García-Camacha Gutiérrez, R. Martín Martín. **Date:** 2018.

18.- Congress/conference/workshop: MSG Seminar Series on Design of Experiments. **Title:** Robust design for mixture experiments, and application to solve a real problem for diesel fuel surrogate models. **Authors:** I.García-Camacha Gutiérrez, R. Martín Martín. **Date:** 2017.

19.- Congress/conference/workshop: IV Congreso de Jóvenes Investigadores en Diseño de Experimentos y Bioestadística (JEDE IV). **Title:** Efficient algorithms for constructing D-optimal designs for linear and non-linear models in mixture experiments. **Authors:** I.García-Camacha Gutiérrez, R. Martín Martín, B. Torsney. **Date:** 2017.

20.- Congress/conference/workshop: XVI Conferencia Española de Biometría.**Tile:** Algorithms for constructing optimal designs in mixture experiments applied to chemical and pharmaceutical industries. **Authors:** I. García-Camacha Gutiérrez, R. Martín Martín,, B. Torsney. **Date:** 2017.

21.- Congress/conference/workshop: 1st Spanish Young Statisticians and Operational Researchers Meeting.**Title:** Numerical methods for optimal mixture experiments. **Authors:** I. García-Camacha Gutiérrez, R. Martín Martín, B. Torsney. **Date:** 2017.