






Manuel López-Ibáñez

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 manuel-lopez-ibanez	NATIONALITY	Spanish
 +44 (0) 16130 68996	LANGUAGES	Spanish (native) English (fluent) French (basic, 2 years) German (basic, 1 year)
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KNOWLEDGE BACKGROUND

My main expertise is the application of **computational intelligence** techniques, such as **stochastic local search** algorithms and **metaheuristics** (including **evolutionary algorithms** and **ant colony optimization**), to optimization problems, including **continuous**, **combinatorial**, and **multi-objective** problems. I have made significant contributions on theoretical and practical aspects of the empirical analysis of multi-objective optimization algorithms. I have also a track record of working on problems relevant in practice, both well-known academic problems with important practical applications, such as the **longest common subsequence problem**, and real-world optimization problems, such as the **scheduling of pump operations** in water distribution networks in order to save energy and reduce operating costs.

I am interested in improving the **understanding of optimization algorithms** by means of experimentation, and I am particularly interested in **difficult multidisciplinary problems**. These interests have led me to study the recent advances on **automatic configuration** and **tuning of algorithms** and how to extend and improve existing methods for more complex optimization problems, such as those with multiple objectives.

PUBLICATION TRACK-RECORD AND CITATIONS

I have published **33 journal papers** (27 in journals indexed ISI-JCR, 21 in Q1), **9 book chapters** and **61 papers in peer-reviewed proceedings** of international conferences, and edited **7 books**. In addition to the presentations associated to peer-reviewed conference papers, I have personally given **37 presentations** during conferences with scientific selection committee, including **11 tutorials** and **14 invited talks**. I

have also made available several software tools that are widely used by the research community. According to the Google Scholar database (or SCOPUS and excluding self-citations):

- My **h-index** is 35 (SCOPUS: 26).
- The **total number of citations** to my papers are more than 6024 (SCOPUS: 3318).
- My five **most-cited** peer-reviewed publications have more than 50 citations each. In addition, the technical report [TR1] describing the **irace** automatic configuration tool [SW6] has been cited more than 200 times, which shows it is widely used by the research community.

PROFESSIONAL EXPERIENCE ★

Turing Fellow Alan Turing Institute, London, UK.	Oct 2021 – Sep 2022
“Beatriz Galindo” Senior Distinguished Researcher at the University of Málaga, Spain.	May 2020 – Jul 2022
Senior Lecturer (Associate Professor) at Alliance Manchester Business School, University of Manchester, UK.	Dec 2018 – Present
Lecturer (Assistant Professor) at Alliance Manchester Business School, University of Manchester, UK.	Oct 2015 – Nov 2018
Postdoctoral researcher of the Belgian Fund for Scientific Research (<i>Chargé de recherches des Fonds de la Recherche Scientifique-FNRS</i>) at IRIDIA, Université Libre de Bruxelles, Brussels, Belgium.	Oct 2011 – Sep 2015
Postdoctoral researcher at the Artificial Intelligence Research Laboratory (IRIDIA) of the Université Libre de Bruxelles, Brussels, Belgium.	Jul 2009 – Sep 2011
Doctoral researcher at the Artificial Intelligence Research Laboratory (IRIDIA) of the Université Libre de Bruxelles, Brussels, Belgium.	Mar 2009 – Jun 2009
Research Assistant at the research group ALBCOM, Departament Llenguatges i Sistemes Informàtics, Universitat Politècnica de Catalunya (UPC), Barcelona, Spain. Supervisor: Dr. Christian Blum.	Oct 2008 – Nov 2008
Doctoral researcher at Barcelona Supercomputing Centre, Spain (HPC-Europa Transnational Access Programme).	Oct 2007 – Dec 2007
Fully funded PhD position at Edinburgh Napier University, United Kingdom. Supervisors: Dr. T. Devi Prasad and Prof. Ben Paechter.	Nov 2004 – Nov 2007
MS Thesis (Diplomarbeit) at the Technische Universität Darmstadt, Germany, with financial support of an Erasmus scholarship. Supervisors: Dr. Thomas Stützle and Dr. Luís Paquete.	Oct 2003 – Jul 2004

★Full time researcher since November, 2004: More than **18 years of research experience**.

ACADEMIC QUALIFICATIONS

- Nov 2009 **PhD award**, Edinburgh Napier University, United Kingdom.
Viva-voice defense successfully passed on June 26, 2009.
Supervisors: Dr. T. Devi Prasad and Prof. Ben Paechter.
Examination Panel: Prof. David W. Corne, Prof. Emma Hart, and Prof. Dragan Savic.
- Sep 2004 *Ingeniero en Informática* (Spanish equivalent of **MS degree in Computer Science**, minimum 5 years), University of Granada, Spain.

SKILLS

Programming languages:	C, C++, Python, R (statistical programming language), Perl, Bourne Again Shell (Bash)
Mathematical tools:	R (statistical computing), Numpy, Pandas, Scikit-learn, Gnuplot, Mathematica, Matlab
Operating systems:	GNU/Linux, Windows, MS-DOS
Parallel programming:	Threads and semaphores, MPI
Various:	LaTeX, Emacs, Subversion, Git, LibreOffice/OpenOffice

BEST PAPER AWARDS

SEIO - BBVA Foundation Award 2021 The paper “*Construct, Merge, Solve & Adapt A new general algorithm for combinatorial optimization*” [IJ17], co-authored with Christian Blum, Pedro Pinacho and José A. Lozano, was awarded the “Best methodological contribution in operations research” prize by the Spanish Society of Statistics and Operations Research – BBVA Foundation Awards.

AI for TSP competition Our team (Martin Zaefferer, Manuel López-Ibáñez and Ekhine Irurozki) won the 1st place in the *AI for TSP Competition* of the 30th International Joint Conference on Artificial Intelligence (IJCAI-21).

EVOCOP 2021 The paper “*Hybridization of Racing Methods with Evolutionary Operators for Simulation Optimization of Traffic Lights Programs*” [IC51], co-authored with Christian Cintrano, Javier Ferrer, and Enrique Alba, received the best paper award of the 21th European Conference on Evolutionary Computation in Combinatorial Optimization (EvoCOP 2021), 2021.

EJOR, Editor’s Choice Award The paper “*Incorporating Decision-Maker’s Preferences into the Automatic Configuration of Bi-Objective Optimisation Algorithms*” [IJ27], co-authored with J. E. Díaz, was selected as one of the **Editor’s Choice Articles** of the *European Journal of Operational Research*, January, 2021.

GECCO 2010 The paper “*The Impact of Design Choices of Multiobjective Ant Colony Optimization Algorithms on Performance: An Experimental Study on the Biobjective TSP*” [IC11], co-authored with Thomas Stützle, received the best paper award of the Ant Colony Optimization and Swarm Intelligence track at the Genetic and Evolutionary Computation Conference (GECCO 2010), Portland, Oregon, 2010.

LION 4 2010 The paper “*Adaptive Anytime Two-Phase Local Search*” [IC10], co-authored with Jérémie Dubois-Lacoste and Thomas Stützle, received the best paper award of the Learning and Intelligent Optimization conference (LION 4), Venice, Italy, 2010.

EA 2009 The paper “*An Analysis of Algorithmic Components for Multiobjective Ant Colony Optimization: A Case Study on the Biobjective TSP*” [IC9], co-authored with Thomas Stützle, received the 3rd best paper award of the 9th international conference on Artificial Evolution (EA’09), Strasbourg, France, 2009.

SCIENTIFIC COLLABORATIONS

Lorentz Center Workshop “Benchmarked: Optimization Meets Machine Learning” Lorentz Center, Leiden, The Netherlands	30/5/2022 – 3/6/2022
Dagstuhl Seminar “Estimation-of-Distribution Algorithms: Theory and Applications” Schloss Dagstuhl - Leibniz Center for Informatics, Germany	1/5/2022 – 6/5/2022
Invited Professor hosted by Prof. Carola Doerr at the Sorbonne University, Paris, France.	6/9/2021 – 17/9/2021
Member of Institute of Technology and Software Engineering (ITIS) at the University of Málaga, Spain	18/11/2020 – Present
Lorentz Center Workshop “Benchmarked: Optimization Meets Machine Learning” Lorentz Center, Leiden, The Netherlands	9/11/2020 – 9/11/2020
Invited participant to Working Group Meeting of EU COST Action CA15140 (<i>Improving Applicability of Nature-Inspired Optimisation by Joining Theory and Practice</i>), Vilnius, Lithuania	17/2/2020 – 19/2/2020
Dagstuhl Seminar “Scalability in Multiobjective Optimization” Schloss Dagstuhl - Leibniz Center for Informatics, Germany	12/1/2020 – 17/1/2020
Dagstuhl Seminar “Theory of Randomized Optimization Heuristics” Schloss Dagstuhl - Leibniz Center for Informatics, Germany	21/10/2019 – 25/10/2019
Invited visiting researcher hosted by Prof. Juan Esteban Diaz Leiva at the University San Francisco de Quito, Ecuador.	11/6/2019 – 28/6/2019
Invited participant to Working Group Meeting of EU COST Action CA15140 (<i>Improving Applicability of Nature-Inspired Optimisation by Joining Theory and Practice</i>), Málaga, Spain	18/2/2019 – 19/2/2019
Invited visiting researcher hosted by Prof. Kaisa Miettinen at the University of Jyväskylä, Finland.	18/8/2018 – 25/8/2018
Dagstuhl Seminar “Personalized Multiobjective Optimization: An Analytics Perspective” Schloss Dagstuhl - Leibniz Center for Informatics, Germany	14/1/2018 – 19/1/2018
Invited visiting Junior Professor hosted by Prof. Kaisa Miettinen at the University of Jyväskylä, Finland.	27/11/2017 – 21/12/2017
Invited participant to Working Group Meeting of EU COST Action CA15140 (<i>Improving Applicability of Nature-Inspired Optimisation by Joining Theory and Practice</i>), Portorož, Slovenia	21/9/2017 – 22/9/2017

Invited visiting researcher hosted by Dr. Marie-Eléonore Kessaci at the University of Lille, France.	13/9/2017 – 15/9/2017
Invited visiting researcher hosted by Dr. Arnaud Liefoghe at the University of Lille, France.	12/6/2017 – 16/6/2017
Invited visiting researcher hosted by Dr. Thomas Stützle at the Université libre de Bruxelles (ULB), Belgium.	19/6/2017 – 23/6/2017
Dagstuhl Seminar “Automated Algorithm Selection and Configuration” Schloss Dagstuhl - Leibniz Center for Informatics, Germany	9/10/2016 – 14/10/2016
Collaborateur Scientifique at the Faculté des Sciences Appliquées, Université libre de Bruxelles, Belgium	1/2/2016 – 30/9/2019
Member of the Decision and Cognitive Sciences Research Centre (DCSRC) at the University of Manchester, UK	1/10/2015 – Present
43rd CREST Open Workshop “Hyper-Heuristics for Software Engineering” University College London (UCL), UK	26/10/2015 – 27/10/2015
Invited visiting researcher hosted by Prof. Enrique Alba at the University of Málaga (UMA), Spain. Funded by a grant (€ 2 710) by the UMA (Estancias Tipo B, Fondos Propios UMA 2014)	1/5/2015 – 31/7/2015
Dagstuhl Seminar “Understanding Complexity in Multiobjective Optimization” Schloss Dagstuhl - Leibniz Center for Informatics, Germany	11/1/2015 – 16/1/2015
Honorary Postdoctoral Fellow hosted by Prof. Holger H. Hoos at the University of British Columbia, Vancouver, Canada. Funded by F.R.S.-FNRS Crédit bref séjour à l'étranger	25/10/2013 – 1/12/2013
Lorentz Center Workshop “SIMCO – Set-Oriented and Indicator-Based Multi-Criteria Optimization” Lorentz Center, Leiden, The Netherlands	2/9/2013 – 6/9/2013
Invited visit hosted by Prof. Juergen Branke at the University of Warwick, Coventry, United Kingdom. COST (European Cooperation in Science and Technology) Action IC0702	23/3/2012 – 30/3/2012
Dagstuhl Seminar “Learning in Multi-Objective Optimization” Schloss Dagstuhl - Leibniz Center for Informatics, Germany	22/1/2012 – 27/1/2012
Invited visit hosted by Dr. Oliver Korb at the Cambridge Crystallographic Data Centre, Cambridge, United Kingdom.	17/10/2011 – 18/10/2011
Invited visit hosted by Dr. Oscar Cordón at the European Centre for Soft Computing, Mieres, Spain. COST (European Cooperation in Science and Technology) Action IC0702	21/6/2011 – 30/6/2011
Invited visit hosted by Prof. Carlos M. Fonseca at the University of Algarve, Faro, Portugal.	1/12/2005 – 20/12/2005

KTP: “Design, Implementation and FineTuning of a Scheduling Model to Optimize the Sequencing of a Compact Strip Production (CSP) Plant”	Jan 2022 – Jul 2022	€ 17 936
<i>Funding:</i> ArcelorMittal, S.A.	<i>Role:</i> PI	
KTP: “Analysis, Selection and Tuning of the Solver Parameters for the Optimization of the Scheduling of Steel Making Facilities”	Jan 2021 – Dec 2021	€ 29 609
<i>Funding:</i> ArcelorMittal, S.A.	<i>Role:</i> PI	
Manchester – Melbourne Call for Dual-Award PhD Projects	Sep 2022 – Aug 2026	
<i>Funding:</i> University of Manchester and University of Melbourne Academic Supervisor	<i>Role:</i> Co-PI,	
HUMOVE: Human-centred Intelligent Mobility (“Movilidad Inteligente centrada en las personas”)	Sep 2021 – Aug 2024	€ 138 182
<i>Funding:</i> Spanish Ministry of Science and Research	<i>Role:</i> Co-I	
North West Social Science Doctoral Training Partnership CASE PhD Studentship: Challenges in Home to School Transport: Large-Scale School Bus Routing inclusive of Special Needs Students and Heterogeneous Fleets in the North West	Sep 2021 – Aug 2024	£ 67 827
<i>Funding:</i> Economic and Social Research Council (ESRC), UK, and 365Response (private company)	<i>Role:</i> Co-PI, Academic Supervisor	
TAILOR: Foundations of Trustworthy AI - Integrating Reasoning, Learning and Optimization	Sep 2020 – Aug 2023	€ 12M (total) € 99 800 (UMA)
<i>Funding:</i> European Commission H2020-ICT-2019-3	<i>Role:</i> UMA Co-Lead	
EPSRC/IBM Industrial CASE: Tuning Bayesian Optimization for Problems with Dynamic Resource Constraints	Oct 2020 – Oct 2025	£ 116 928
<i>Funding:</i> Engineering and Physical Sciences Research Council (EPSRC), UK	<i>Role:</i> Co-I, Academic Supervisor	
“Beatriz Galindo” Senior Distinguished Researcher	May 2020 – Apr 2024	€ 360 000
<i>Funding:</i> Spanish Ministry of Science and Innovation (MICINN) Renounced in July 2022	<i>Role:</i> PI	
Research Support Fund: Operating theatre planning	Jan 2019 – Jun 2019	£ 4 974
<i>Funding:</i> Alliance Manchester Business School	<i>Role:</i> Co-I	
Quantitative Models of Realistic Human Decision-Makers for Data Analytics and Optimisation	Jan 2019 – Dec 2021	£ 70 000
<i>Funding:</i> Alliance Manchester Business School Project proposal for a fully-funded PhD Scholarship	<i>Role:</i> PI	
Knowledge Transfer Partnership: Transport in healthcare	Nov 2018 – Dec 2020	£ 219 940
<i>Funding:</i> Innovate UK Canceled due to financial issues in the company	<i>Role:</i> Co-I	
UScore2: City to city local level peer review on Disaster Risk Reduction	Jan 2017 – Dec 2018	£ 1 010 186
<i>Funding:</i> European Commission	<i>Role:</i> Participant researcher	

Ayuda “Ramón y Cajal” (Independent postdoctoral researcher fellowship)	Sep 2015 – Sep 2020
<i>Funding:</i> Spanish Government	<i>Role:</i> PI € 208 600
Awarded but declined by me to take a permanent position at Univ. of Manchester	
COMEX: Combinatorial Optimization: Metaheuristics and EXact methods	Oct 2012 – Sep 2017
<i>Funding:</i> Inter-university Attraction Poles Programme of the Belgian Federal Science Policy Office (BELSPO)	€ 500 000
	<i>Role:</i> Participant researcher
Hybrid Search Methods for Complex Problems	Jan 2010 – Dec 2013
<i>Funding:</i> Belgian National Science Foundation (FNRS), FRFC program	€ 109 000
<i>Role:</i> Participant researcher	
Joint FRFC (“Fonds de la recherche fondamentale collective”) research project with the <i>BeCool</i> research group at Université catholique de Louvain	
Meta-X: Metaheuristics for Complex Optimization Problems	Oct 2008 – Sep 2013
<i>Funding:</i> ARC Project (“Action de Recherche Concertée ”), Scientific Research Directorate of the French Community of Belgium	€ 650 000
	<i>Role:</i> Participant researcher
Research visit grant (Crédit bref séjour à l’étranger)	Oct 2013 – Dec 2013
<i>Funding:</i> Belgian F.R.S.-FNRS	<i>Role:</i> PI € 1 900
Grant for a research visit at University of British Columbia, Vancouver	
Prime Horizon	Sep 2013 – Sep 2013
<i>Funding:</i> NCP Wallonie, Belgium	<i>Role:</i> PI € 1 925
Grant for the elaboration as a partner of a project proposal for the European Union FET-Open-Xtrack	
Postdoctoral Fellowship (Chargé de recherches)	Oct 2011 – Sep 2015
<i>Funding:</i> Belgian F.R.S.-FNRS	<i>Role:</i> PI approx. € 360 000
High Performance Ant Colony Optimisation of the Pump Scheduling Problem	Oct 2007 – Dec 2007
<i>Funding:</i> HPC-Europa Transnational Access Programme	<i>Role:</i> PI € 4 500
Grant for a research project on parallel optimization at the Barcelona Supercomputing Centre, Spain	

OTHER MERITS AND AWARDS

- *Outstanding Teaching Award*, Faculty of Humanities, University of Manchester, UK (Oct 2020)
- Fellow of The Higher Education Academy in recognition of attainment against the UK Professional Standards Framework for teaching and learning support in higher education (Nov 2018)
- “*Rewarding Exceptional Performance*” awarded by Alliance Manchester Business School, UK (2017)
- Successfully completed *Google Summer of Code* program. 10% acceptance rate (May 2006 – Aug 2006).
- Erasmus scholarship at the Technische Universität Darmstadt, Germany (Oct 2003 – Jun 2004).

RESIDENCE IN FOREIGN COUNTRIES

Manchester, United Kingdom	October 2015 – June 2021
Brussels, Belgium	March 2009 – September 2015
Edinburgh, United Kingdom	November 2004 – November 2007
Darmstadt, Germany	October 2003 – August 2004

INTERESTS AND HOBBIES

- Free/Open Source Software. I have contributed code to the [GNU Compiler Collection \(GCC\)](#), the [R project](#), and other software projects
- Graphic novels, particularly Alan Moore
- Spanish poetry, particularly Angel González
- Languages
- Traveling
- Capoeira, a Brazilian dance and martial art

Theses

- [TS2] Manuel López-Ibáñez. *Operational Optimisation of Water Distribution Networks*. PhD thesis, School of Engineering and the Built Environment, Edinburgh Napier University, UK, 2009.
- [TS1] Manuel López-Ibáñez. *Multi-objective Ant Colony Optimization*. Diploma thesis, Intellectics Group, Computer Science Department, Technische Universität Darmstadt, Germany, 2004.

Papers in peer-reviewed international journals

- [IJ33] Christian Cintrano, Javier Ferrer, Manuel López-Ibáñez, and Enrique Alba. **Hybridization of Evolutionary Operators with Elitist Iterated Racing for the Simulation Optimization of Traffic Lights Programs**. *Evolutionary Computation*, 2022.
(2020 ISI-JCR impact factor: 3.277, Q1: 24/110 in COMPUTER SCIENCE, THEORY & METHODS)
- [IJ32] Marcelo De Souza, Marcus Ritt, and Manuel López-Ibáñez. **Capping Methods for the Automatic Configuration of Optimization Algorithms**. *Computers & Operations Research*, 139:105615, 2022.
(2021 ISI-JCR impact factor: 5.159, Q2: 29/100 in OPERATIONS RESEARCH & MANAGEMENT SCIENCE)
- [IJ31] Manuel López-Ibáñez, Jürgen Branke, and Luís Paquete. **Reproducibility in Evolutionary Computation**. *ACM Transactions on Evolutionary Learning and Optimization*, 1(4):1–21, 2021.
- [IJ30] Babooshka Shavazipour, Manuel López-Ibáñez, and Kaisa Miettinen. **Visualizations for Decision Support in Scenario-based Multiobjective Optimization**. *Information Sciences*, 578:1–21, 2021.
(2020 ISI-JCR impact factor: 6.795, Q1: 18/162 in COMPUTER SCIENCE, INFORMATION SYSTEMS)
- [IJ29] Marcelo De Souza, Marcus Ritt, Manuel López-Ibáñez, and Leslie Pérez Cáceres. **ACVIZ: A Tool for the Visual Analysis of the Configuration of Algorithms with irace**. *Operations Research Perspectives*, 8:100186, 2021.
(2021 ISI-JCR impact factor: 3.382, Q2: 32/87 in OPERATIONS RESEARCH & MANAGEMENT SCIENCE)
- [IJ28] Lucía Rivadeneira, Jian-Bo Yang, and Manuel López-Ibáñez. **Predicting tweet impact using a novel evidential reasoning prediction method**. *Expert Systems with Applications*, 2021. EXPERT SYST APPL20206.95423140COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCEQ13
- [IJ27] Juan Esteban Diaz and Manuel López-Ibáñez. **Incorporating Decision-Maker’s Preferences into the Automatic Configuration of Bi-Objective Optimisation Algorithms**. *European Journal of Operational Research*, 289(3):1209–1222, 2021. ★ *Editor’s Choice Award*
(2020 ISI-JCR impact factor: 5.334, Q1: 15/84 in OPERATIONS RESEARCH & MANAGEMENT SCIENCE)
- [IJ26] Patrycja Strycharczuk, Manuel López-Ibáñez, Georgina Brown, and Adrian Leemann. **General Northern English: Exploring regional variation in the North of England with machine learning**. *Frontiers in Artificial Intelligence*, 2020.
- [IJ25] Leonardo C. T. Bezerra, Manuel López-Ibáñez, and Thomas Stützle. **Automatically Designing State-of-the-Art Multi- and Many-Objective Evolutionary Algorithms**. *Evolutionary Computation*, 28(2):195–226, 2020.
(2020 ISI-JCR impact factor: 3.277, Q1: 24/110 in COMPUTER SCIENCE, THEORY & METHODS)
- [IJ24] Jennifer Bealt, Duncan Shaw, Chris M. Smith, and Manuel López-Ibáñez. **Peer Reviews for Making Cities Resilient: A Systematic Literature Review**. *International Journal of Emergency Management*, 15(4):334–359, 2019.

*These publications are available at <http://lopez-ibanez.eu/publications>

- [IJ23] Javier Ferrer, Manuel López-Ibáñez, and Enrique Alba. **Reliable Simulation-Optimization of Traffic Lights in a Real-World City.** *Applied Soft Computing*, 78:697–711, 2019.
(2019 ISI-JCR impact factor: 5.472, Q1: 20/136 in COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE)
- [IJ22] Simon Wessing and Manuel López-Ibáñez. **Latin Hypercube Designs with Branching and Nested Factors for Initialization of Automatic Algorithm Configuration.** *Evolutionary Computation*, 27(1):129–145, 2018.
(2018 ISI-JCR impact factor: 3.469, Q1: 14/105 in COMPUTER SCIENCE, THEORY & METHODS)
- [IJ21] Leonardo C. T. Bezerra, Manuel López-Ibáñez, and Thomas Stützle. **A Large-Scale Experimental Evaluation of High-Performing Multi- and Many-Objective Evolutionary Algorithms.** *Evolutionary Computation*, 26(4):621–656, 2018.
(2017 ISI-JCR impact factor: 2.629, Q1: 20/103 in COMPUTER SCIENCE, THEORY & METHODS)
- [IJ20] Elena A. Kabova, Jason C. Cole, Oliver Korb, Manuel López-Ibáñez, Adrian C. Williams, and Kenneth Shankland. **Improved performance of crystal structure solution from powder diffraction data through parameter tuning of a simulated annealing algorithm.** *Journal of Applied Crystallography*, 50(5):1411–1420, Oct 2017.
(2017 ISI-JCR impact factor: 3.422, Q2: 58/171 in CHEMISTRY, MULTIDISCIPLINARY)
- [IJ19] Manuel López-Ibáñez, Jérémie Dubois-Lacoste, Leslie Pérez Cáceres, Thomas Stützle, and Mauro Birattari. **The irace Package: Iterated Racing for Automatic Algorithm Configuration.** *Operations Research Perspectives*, 3:43–58, 2016.
(1192 citations according to Google Scholar)
- [IJ18] Leonardo C. T. Bezerra, Manuel López-Ibáñez, and Thomas Stützle. **Automatic Component-Wise Design of Multi-Objective Evolutionary Algorithms.** *IEEE Transactions on Evolutionary Computation*, 20(3):403–417, 2016.
(2016 ISI-JCR impact factor: 10.629, Q1: 1/104 in COMPUTER SCIENCE, THEORY & METHODS)
- [IJ17] Christian Blum, Pedro Pinacho, Manuel López-Ibáñez, and José A. Lozano. **Construct, Merge, Solve & Adapt: A New General Algorithm for Combinatorial Optimization.** *Computers & Operations Research*, 68:75–88, 2016.
★ “Best methodological contribution in operations research” award by the Spanish Society of Statistics and Operations Research – BBVA Foundation
(2016 ISI-JCR impact factor: 2.600, Q1: 16/83 in OPERATIONS RESEARCH & MANAGEMENT SCIENCE)
- [IJ16] Vito Trianni and Manuel López-Ibáñez. **Advantages of Task-Specific Multi-Objective Optimisation in Evolutionary Robotics.** *PLoS One*, 10(8):e0136406, 2015.
(2015 ISI-JCR impact factor: 3.057, Q1: 11/63 in MULTIDISCIPLINARY SCIENCES)
- [IJ15] Leslie Pérez Cáceres, Manuel López-Ibáñez, and Thomas Stützle. **Ant colony optimization on a limited budget of evaluations.** *Swarm Intelligence*, 9(2-3):103–124, 2015.
(2015 ISI-JCR impact factor: 2.577, Q1: 26/130 in COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE)
- [IJ14] Jérémie Dubois-Lacoste, Manuel López-Ibáñez, and Thomas Stützle. **Anytime Pareto Local Search.** *European Journal of Operational Research*, 243(2):369–385, 2015.
(2015 ISI-JCR impact factor: 2.679, Q1: 9/82 in OPERATIONS RESEARCH & MANAGEMENT SCIENCE)
- [IJ13] Franco Mascia, Manuel López-Ibáñez, Jérémie Dubois-Lacoste, and Thomas Stützle. **Grammar-Based Generation of Stochastic Local Search Heuristics through Automatic Algorithm Configuration Tools.** *Computers & Operations Research*, 51:190–199, 2014.
(2014 ISI-JCR impact factor: 1.861, Q1: 19/81 in OPERATIONS RESEARCH & MANAGEMENT SCIENCE)

- [IJ12] Manuel López-Ibáñez and Thomas Stützle. **Automatically Improving the Anytime Behaviour of Optimisation Algorithms**. *European Journal of Operational Research*, 235(3):569–582, 2014. (2014 ISI-JCR impact factor: 2.358, Q1: 10/81 in OPERATIONS RESEARCH & MANAGEMENT SCIENCE) (69 citations according to Google Scholar)
- [IJ11] Manuel López-Ibáñez, Christian Blum, Jeffrey W. Ohlmann, and Barrett W. Thomas. **The Travelling Salesman Problem with Time Windows: Adapting Algorithms from Travel-time to Makespan Optimization**. *Applied Soft Computing*, 13(9):3806–3815, 2013. (2013 ISI-JCR impact factor: 2.679, Q1: 20/121 in COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE)
- [IJ10] Manuel López-Ibáñez and Thomas Stützle. **An experimental analysis of design choices of multi-objective ant colony optimization algorithms**. *Swarm Intelligence*, 6(3):207–232, 2012. (2012 ISI-JCR impact factor: 0.640, Q4: 89/115 in COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE)
- [IJ9] Manuel López-Ibáñez and Thomas Stützle. **The Automatic Design of Multi-Objective Ant Colony Optimization Algorithms**. *IEEE Transactions on Evolutionary Computation*, 16(6):861–875, 2012. (2012 ISI-JCR impact factor: 4.810, Q1: 1/100 in COMPUTER SCIENCE, THEORY & METHODS) (188 citations according to Google Scholar)
- [IJ8] Jérémie Dubois-Lacoste, Manuel López-Ibáñez, and Thomas Stützle. **Improving the Anytime Behavior of Two-Phase Local Search**. *Annals of Mathematics and Artificial Intelligence*, 61(2):125–154, 2011. (2011 ISI-JCR impact factor: 0.358, Q4: 98/111 in COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE) (38 citations according to Google Scholar)
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- [IC15] Manuel López-Ibáñez, Joshua D. Knowles, and Marco Laumanns. **On Sequential Online Archiving of Objective Vectors**. In R. H. C. Takahashi et al., editors, *Evolutionary Multi-criterion Optimization, EMO 2011*, volume 6576 of *Lecture Notes in Computer Science*, pages 46–60. Springer, 2011.
(63 citations according to Google Scholar)
- [IC14] Carlos M. Fonseca, Andreia P. Guerreiro, Manuel López-Ibáñez, and Luís Paquete. **On the Computation of the Empirical Attainment Function**. In R. H. C. Takahashi et al., editors, *Evolutionary Multi-criterion Optimization, EMO 2011*, volume 6576 of *Lecture Notes in Computer Science*, pages 106–120. Springer, 2011.
- [IC13] Manuel López-Ibáñez and Thomas Stützle. **Automatic Configuration of Multi-Objective ACO Algorithms**. In M. Dorigo et al., editors, *Swarm Intelligence, 7th International Conference, ANTS 2010*, volume 6234 of *Lecture Notes in Computer Science*, pages 95–106. Springer, 2010.
- [IC12] Michael Maur, Manuel López-Ibáñez, and Thomas Stützle. **Pre-scheduled and adaptive parameter variation in Max-Min Ant System**. In H. Ishibuchi et al., editors, *Proceedings of the 2010 Congress on Evolutionary Computation (CEC 2010)*, pages 3823–3830. IEEE Press, 2010.
- [IC11] Manuel López-Ibáñez and Thomas Stützle. **The impact of design choices of multi-objective ant colony optimization algorithms on performance: An experimental study on the biobjective TSP**. In M. Pelikan and J. Branke, editors, *Proceedings of the Genetic and Evolutionary Computation Conference, GECCO 2010*, pages 71–78. ACM Press, 2010. ★ *Best paper award*
- [IC10] Jérémie Dubois-Lacoste, Manuel López-Ibáñez, and Thomas Stützle. **Adaptive “Anytime” Two-Phase Local Search**. In C. Blum and R. Battiti, editors, *Learning and Intelligent Optimization, 4th International Conference, LION 4*, volume 6073 of *Lecture Notes in Computer Science*, pages 52–67. Springer, 2010. ★ *Best paper award*
- [IC9] Manuel López-Ibáñez and Thomas Stützle. **An Analysis of Algorithmic Components for Multiobjective Ant Colony Optimization: A Case Study on the Biobjective TSP**. In P. Collet,

- N. Monmarché, P. Legrand, M. Schoenauer, and E. Lutton, editors, *Artificial Evolution: 9th International Conference, Evolution Artificielle, EA, 2009*, volume 5975 of *Lecture Notes in Computer Science*, pages 134–145. Springer, 2010. ★ 3rd best paper award
- [IC8] Manuel López-Ibáñez, Christian Blum, Dhananjay Thiruvady, Andreas T. Ernst, and Bernd Meyer. **Beam-ACO based on stochastic sampling for makespan optimization concerning the TSP with time windows**. In C. Cotta and P. Cowling, editors, *Proceedings of EvoCOP 2009 – 9th European Conference on Evolutionary Computation in Combinatorial Optimization*, volume 5482 of *Lecture Notes in Computer Science*, pages 97–108. Springer, 2009.
- [IC7] Manuel López-Ibáñez and Christian Blum. **Beam-ACO Based on Stochastic Sampling: A Case Study on the TSP with Time Windows**. In T. Stützle, editor, *Learning and Intelligent Optimization, Third International Conference, LION 3*, volume 5851 of *Lecture Notes in Computer Science*, pages 59–73. Springer, 2009.
- [IC6] Jérémie Dubois-Lacoste, Manuel López-Ibáñez, and Thomas Stützle. **Effective Hybrid Stochastic Local Search Algorithms for Biobjective Permutation Flowshop Scheduling**. In M. J. Blesa, C. Blum, L. Di Gaspero, A. Roli, M. Sampels, and A. Schaerf, editors, *Hybrid Metaheuristics*, volume 5818 of *Lecture Notes in Computer Science*, pages 100–114. Springer, 2009.
- [IC5] Manuel López-Ibáñez, T. Devi Prasad, and Ben Paechter. **Parallel Optimisation Of Pump Schedules With A Thread-Safe Variant Of EPANET Toolkit**. In J. E. van Zyl, A. A. Ilemobade, and H. E. Jacobs, editors, *Proceedings of the 10th Annual Water Distribution Systems Analysis Conference (WDSA 2008)*. ASCE, Aug 2008.
- [IC4] Carlos M. Fonseca, Luís Paquete, and Manuel López-Ibáñez. **An improved dimension-sweep algorithm for the hypervolume indicator**. In *Proceedings of the 2006 Congress on Evolutionary Computation (CEC 2006)*, pages 1157–1163. IEEE Press, Jul 2006.
(443 citations according to Google Scholar)
- [IC3] Manuel López-Ibáñez, T. Devi Prasad, and Ben Paechter. **Multi-objective Optimisation of the Pump Scheduling Problem using SPEA2**. In *Proceedings of the 2005 Congress on Evolutionary Computation (CEC 2005)*, volume 1, pages 435–442. IEEE Press, Sept 2005.
(59 citations according to Google Scholar)
- [IC2] Manuel López-Ibáñez, T. Devi Prasad, and Ben Paechter. **Optimal Pump Scheduling: Representation and Multiple Objectives**. In D. A. Savic, G. A. Walters, R. King, and S. Thiam-Khu, editors, *Proceedings of the Eighth International Conference on Computing and Control for the Water Industry (CCWI 2005)*, volume 1, pages 117–122, Sept 2005.
- [IC1] Manuel López-Ibáñez, Luís Paquete, and Thomas Stützle. **On the Design of ACO for the Biobjective Quadratic Assignment Problem**. In M. Dorigo et al., editors, *Ant Colony Optimization and Swarm Intelligence, 4th International Workshop, ANTS 2004*, volume 3172 of *Lecture Notes in Computer Science*, pages 214–225. Springer, 2004.
(67 citations according to Google Scholar)

Software publicly available

- [SW7] **MOACO framework**. The multi-objective ant colony optimization (MOACO) framework is able to instantiate most MOACO algorithms from the literature, and also combine components that were never studied in the literature. This is the software originally proposed in [IJ9], and used later in [IJ10][IC21]. [<http://lopez-ibanez.eu/moaco>]

- [SW6] **irace R package.** Implements the Iterated F-Race procedure for automatic configuration (offline tuning) of parametric optimization algorithms. Lead developer and co-maintainer. The irace package is described in [TR1][IJ19]. Close to one-hundred papers have made use of irace, as evidenced by the high number of citations of the TR.
[<https://mlopez-ibanez.github.io/irace/>] (More than 60,000 total downloads by Nov 2019)
- [SW5] **Multi-objective Archivers.** This software implements most of the currently available archiving algorithms (archivers) in a common framework for simplifying their comparison and analysis. Developed in collaboration with Joshua Knowles and Marco Laumanns [IC15].
[<http://lopez-ibanez.eu/archivers>]
- [SW4] **Graphical tools for the exploratory analysis of bi-objective optimisation algorithms** (eaf R package). Developed in collaboration with Thomas Stützle and Luís Paquete [BC2]. Lead developer and current maintainer. [<http://lopez-ibanez.eu/eaftools>] (More than 21,000 total downloads by Oct 2018)
- [SW3] **Software for computing the hypervolume indicator.** Implementation of our $O(n^{d-2} \log n)$ algorithm [IC4]. Co-authored with Carlos M. Fonseca and Luís Paquete.
[<http://lopez-ibanez.eu/hypervolume>]
This software has been incorporated into two R packages, mco (multi criteria optimization algorithms and related functions) [<http://cran.r-project.org/web/packages/mco>] and emoa (evolutionary multiobjective optimization algorithms) [<http://cran.r-project.org/web/packages/emoa>], and it is used by the project “desiRe” [<http://r-forge.r-project.org/projects/desire>].
- [SW2] **EPANET for GNU/Linux.** A version of the hydraulic simulator library EPANET Toolkit, improved for using it in optimisation algorithms. Sole developer.
[<http://lopez-ibanez.eu/epanetlinux>]
- [SW1] **A Thread-Safe Variant of the EPANET Toolkit for Parallel Applications.** An extensive modification of the EPANET Toolkit for parallel optimisation algorithms [IC5]. Sole developer.
[<http://lopez-ibanez.eu/epanet-thread-safe>]

Oral presentations during conferences with scientific selection committee

(Only those presented by myself and excluding presentations associated to peer-reviewed conference papers, which are listed above)

- [OP37] **Tutorial on Optimization Challenges at the European Space Agency.** In *Genetic and Evolutionary Computation Conference, GECCO, 2022*.
- [OP36] **Tutorial on Automated Algorithm Configuration and Design.** In *Genetic and Evolutionary Computation Conference, GECCO, 2022*.
- [OP35] **A Self-Adaptive Bayesian Optimizer based on Clustered Kriging and Feasibility Classification for the Black-box Time-Dependent Orienteering Problem with Stochastic Weights and Time Windows.** In *Data Science Meets Optimisation Workshop, International Joint Conference on Artificial Intelligence (IJCAI-2021)*, 2021.
- [OP34] **Tutorial on Replicability and reproducibility in evolutionary optimization.** In *Genetic and Evolutionary Computation Conference, GECCO, 2021*.
- [OP33] **Tutorial on Automated Algorithm Configuration and Design.** In *Genetic and Evolutionary Computation Conference, GECCO, 2021*.

- [OP32] **Some Thoughts on Benchmarking in Combinatorial Optimization.** In *Lorentz Workshop on “Benchmarked: Optimization Meets Machine Learning”*, Leiden, The Netherlands, Nov, 11 2020. Invited Talk. ★
- [OP31] **Late to the Party: Reproducible Research in Evolutionary Computation.** In *Workshop on “Good Benchmarking Practices for Evolutionary Computation”, Parallel Problem Solving from Nature, PPSN XVI*, Leiden, The Netherlands, Sept, 5 2020. Invited Talk. ★
- [OP30] **Tutorial on Automated Algorithm Configuration and Design.** In *Genetic and Evolutionary Computation Conference, GECCO*, Cancún, México, July 9, 2020.
- [OP29] **Automatic Machine Learning and Optimisation and the Human-in-the-Loop.** In *Human Centred Analytics and AI for Social Science, ESRC Festival of Social Science*, Manchester Metropolitan University, UK, Nov, 6 2019. Invited Talk. ★
- [OP28] **Automated Algorithm Configuration and Selection for Theoreticians.** In *Dagstuhl Seminar on Theory of Randomized Optimization Heuristics*, Schloss Dagstuhl - Leibniz-Center for Informatics, Wadern, Germany, October 21-25, 2019. Invited Talk. ★
- [OP27] **Automatic Configuration of SLS Algorithms.** In *International Workshop on Stochastic Local Search Algorithms (SLS2019)*, Université de Lille, France, September 12, 2019. Keynote Talk. ★
- [OP26] **Automated Design of Metaheuristic Algorithms: Methods, Applications and Perspectives.** In *Optimization Days (Journées de l’Optimisation) 2019*, HEC Montréal, Canada, May 14, 2019. Keynote Talk. ★
- [OP25] **Automatic Design of Hybrid Metaheuristics from Component-Wise Algorithmic Frameworks.** In *Hybrid Metaheuristics*, Concepción, Chile, January 17, 2019. Keynote Talk. ★
- [OP24] **Tutorial on Automated Offline Design of Algorithms.** In *Genetic and Evolutionary Computation Conference, GECCO*, Kyoto, Japan, July 15-19, 2018.
- [OP23] **Semi-interactive Automatic Design of Bi-objective Optimizers.** In *1st International Workshop on Computational Intelligence for Massive Optimization (CIMO 2018)*, Nagano, Japan, July 12, 2018. Invited Talk. ★
- [OP22] **Data-Driven design of multi-objective optimizers.** In *Dagstuhl Seminar on Personalized Multiobjective Optimization*, Schloss Dagstuhl - Leibniz-Center for Informatics, Wadern, Germany, January 15-19, 2017. Invited Talk. ★
- [OP21] **Tutorial on Automatic Offline Design of Algorithms.** In *Genetic and Evolutionary Computation Conference, GECCO*, Berlin, Germany, July 15-19, 2017.
- [OP20] **Challenges in Automated Algorithm Design: Representativeness, One-Shot Expensive Scenarios, Parameter Importance and Sensitivity, and Human-in-the-Loop.** In *Dagstuhl Seminar on Automated Algorithm Selection and Configuration*, Schloss Dagstuhl - Leibniz-Center for Informatics, Wadern, Germany, October 9-14, 2016. Invited Talk. ★
- [OP19] **How to Design a New State-of-the-Art Multi-objective Evolutionary Algorithm Every Weekend.** In *28th European Conference on Operational Research, EURO 2016*, Poznan, Poland, July 3–6, 2016.
- [OP18] **Automatic Configuration and Design of Optimization Algorithms.** In *43rd CREST Open Workshop*, University College London, UK, October 26-27, 2015. Invited Talk. ★
- [OP17] **Tutorial on Automatic (Offline) Configuration of Algorithms.** In *Genetic and Evolutionary Computation Conference, GECCO*, Madrid, Spain, July 11-15, 2015.

- [OP16] **Machine Decision Makers: from Modeling Preferences to Modeling Decision Makers.** In *Dagstuhl Seminar on Understanding Complexity in Multiobjective Optimization*, Schloss Dagstuhl - Leibniz-Center for Informatics, Wadern, Germany, January 12-16, 2015. Invited Talk. ★
- [OP15] **A Template for Designing Single-Solution Hybrid Metaheuristics.** In *Workshop on Metaheuristic Design Patterns (MetaDeeP), Genetic and Evolutionary Computation Conference, GECCO*, Vancouver, Canada, July 12-16, 2014.
- [OP14] **Tutorial on Automatic (Offline) Configuration of Algorithms.** In *Genetic and Evolutionary Computation Conference, GECCO*, Vancouver, Canada, July 12-16, 2014.
- [OP13] **Deconstructing Multi-objective Evolutionary Algorithms.** In *28th Annual Conference of the Belgian Operations Research Society, ORBEL 28*, Mons, Belgium, January 30-31, 2014.
- [OP12] **Tutorial on Automatic (Offline) Configuration of Algorithms.** In *Genetic and Evolutionary Computation Conference, GECCO 2013*, Amsterdam, The Netherlands, July 6-10, 2013.
- [OP11] **From Grammars to Parameters: Automatic Design of Iterated Greedy Algorithms.** In *27th Annual Conference of the Belgian Operations Research Society, ORBEL 27*, Kortrijk, Belgium, February 7-8, 2013.
- [OP10] **Automatic Configuration of Optimization Algorithms.** In *Fourth International Workshop on Model-based Metaheuristics, Matheuristics 2012*, Angra dos Reis, Brazil, Sept 17-20, 2012.
- [OP9] **Automatic Design of Algorithms with iRace for Multi-Objective Optimization and Anytime Optimization.** In *12th International Conference on Parallel Problem Solving From Nature, PPSN XII*, Taormina, Italy, September 1-5, 2012. Invited Talk. ★
- [OP8] **Automatic Design of Multi-Objective Algorithms.** In *25th European Conference on Operational Research, EURO 2012*, Vilnius, Lithuania, July 8-11, 2012.
- [OP7] **Automatically Improving the Anytime Behavior of Optimisation Algorithms.** In *26th Annual Conference of the Belgian Operations Research Society, ORBEL 26*, Brussels, Belgium, February 2-3, 2012.
- [OP6] **Offline Learning in Multi-Objective Optimization.** In *Dagstuhl Seminar on Learning in Multiobjective Optimization*, Schloss Dagstuhl - Leibniz-Center for Informatics, Wadern, Germany, January 22-27, 2012. Invited Talk. ★
- [OP5] **Improving the Anytime Behaviour of Optimisation Algorithms by Automatic Algorithm Configuration Tools.** In *Metaheuristics International Conference, MIC 2011*, Udine, Italy, July 25-28, 2011.
- [OP4] **Automatic Design of Ant Colony Optimization Algorithms for Bi-objective Problems.** In *25th Annual Conference of the Belgian Operations Research Society, ORBEL 25*, Ghent, Belgium, February 10-11, 2011.
- [OP3] **Tutorial on Ant Colony Optimization.** In *Genetic and Evolutionary Computation Conference, GECCO 2010*, Portland, Oregon, USA, July 7-11, 2010.
- [OP2] **Graphical tools for the analysis of bi-objective optimization algorithms.** In *Workshop on Theoretical Aspects of Evolutionary Multiobjective Optimization, Genetic and Evolutionary Computation Conference, GECCO 2010*, Portland, Oregon, USA, July 7-11, 2010.
- [OP1] Manuel López-Ibáñez, T. Devi Prasad, and Ben Paechter. **Solving Optimal Pump Control Problem using Max-Min Ant System.** In D. Thierens et al., editors, *Proceedings of the Genetic and Evolutionary Computation Conference, GECCO 2007*, volume 1, page 176. ACM Press, 2007. (Poster)

Notable Technical/Scientific Reports

(These publications are notable for various reasons and are either pending or not suitable for peer-reviewed publication)

- [TR7] Manuel López-Ibáñez, Leslie Pérez Cáceres, and Thomas Stützle. **irace: A Tool for the Automatic Configuration of Algorithms**. *International Federation of Operational Research Societies (IFORS) News*, 14(2):30–32, Jun 2020.
- [TR6] Manuel López-Ibáñez. **GECCO2019@Prague: Editor-in-Chief Report**. *SIGEVolution*, 12(4):3–7, 2019.
- [TR5] Dimo Brockhoff, Roberto Calandra, Manuel López-Ibáñez, Frank Neumann, and Selvakumar Ulaganathan. **Meta-modeling for (interactive) multi-objective optimization (WG5)**. In K. Klamroth, J. D. Knowles, G. Rudolph, and M. M. Wiecek, editors, *Personalized Multiobjective Optimization: An Analytics Perspective (Dagstuhl Seminar 18031)*, volume 8(1) of *Dagstuhl Reports*, pages 85–94. Schloss Dagstuhl–Leibniz-Zentrum für Informatik, Germany, 2018.
- [TR4] Jürgen Branke, Salvatore Corrente, Salvatore Greco, Milosz Kadzinski, Manuel López-Ibáñez, Vincent Mousseau, Mauro Munerato, and Roman Słowiński. **Behavior-Realistic Artificial Decision-Makers to Test Preference-Based Multi-objective Optimization Method (Working Group “Machine Decision-Making”)**. In S. Greco, K. Klamroth, J. D. Knowles, and G. Rudolph, editors, *Understanding Complexity in Multiobjective Optimization (Dagstuhl Seminar 15031)*, volume 5(1) of *Dagstuhl Reports*, pages 110–116. Schloss Dagstuhl–Leibniz-Zentrum für Informatik, Germany, 2015.
- [TR3] Vito Trianni and Manuel López-Ibáñez. **Advantages of Multi-Objective Optimisation in Evolutionary Robotics: Survey and Case Studies**. Technical Report TR/IRIDIA/2014-014, IRIDIA, Université Libre de Bruxelles, Belgium, 2014.
- [TR2] Anne Auger, Dimo Brockhoff, Manuel López-Ibáñez, Kaisa Miettinen, Boris Naujoks, and Günther Rudolph. **Which questions should be asked to find the most appropriate method for decision making and problem solving? (Working Group “Algorithm Design Methods”)**. In S. Greco, J. D. Knowles, K. Miettinen, and E. Zitzler, editors, *Learning in Multiobjective Optimization (Dagstuhl Seminar 12041)*, volume 2(1) of *Dagstuhl Reports*, pages 92–93. Schloss Dagstuhl–Leibniz-Zentrum für Informatik, Germany, 2012.
- [TR1] Manuel López-Ibáñez, Jérémie Dubois-Lacoste, Thomas Stützle, and Mauro Birattari. **The irace package, Iterated Race for Automatic Algorithm Configuration**. Technical Report TR/IRIDIA/2011-004, IRIDIA, Université Libre de Bruxelles, Belgium, 2011. Published in *Operations Research Perspectives* [IJ19].
(354 citations according to Google Scholar)

Other invited talks

- “Local Search for Combinatorial Optimization Problems with Multiple Objectives” 29/11/2021
Universidad Rey Juan Carlos, Madrid, Spain.
- “Incorporating Decision-Maker’s Preferences into the Automatic Configuration of Bi-objective Optimisation Algorithms” 15/9/2021
LIP6, Sorbonne University, Paris, France.

<p><i>“Automatic Algorithm Configuration and Design”</i> Lancaster Intelligent, Robotic and Autonomous Systems Centre, University of Lancaster, UK.</p>	20/7/2021
<p><i>“Automatic Configuration and Design of Algorithms”</i> XXIII Seminar “Latest Advances in Computer Science 2019” (“Últimos Avances en Informática”), Universidad de La Laguna, Tenerife, Spain.</p>	18/12/2019
<p><i>“Automatic Tuning of Compiler Options using irace”</i> GNU Tools Cauldron 2018, International Workshop on the GNU Compiler Toolchain, Manchester, UK.</p>	8/9/2018
<p><i>“Intersections between Machine Learning and Optimization”</i> University of Jyväskylä, Finland.</p>	21/8/2018
<p><i>“Offline configuration and online control in optimization algorithms: Friends or foes?”</i> Department of Computer Science, University of York, York, UK.</p>	6/6/2018
<p><i>“Why Automated Algorithm Design is Inevitable”</i> KULAK, KU Leuven, Belgium.</p>	16/5/2018
<p><i>“Reliable Simulation-Optimization of Traffic Lights in a Real-World City”</i> Industrial Optimization Group, University of Jyväskylä, Finland.</p>	18/12/2017
<p><i>“Analysing Stochastic Multi-criteria Data by means of the Empirical Attainment Function”</i> Industrial Optimization Group, University of Jyväskylä, Finland.</p>	12/12/2017
<p><i>“Automatic Offline Design of Algorithms”</i> Industrial Optimization Group, University of Jyväskylä, Finland.</p>	1/12/2017
<p><i>“Let my configurator tune your algorithm: Hyper-parameter optimisation with irace”</i> Machine Learning and Optimisation Group, University of Manchester, UK.</p>	19/10/2017
<p><i>“Let the Cloud design your next multi-objective optimiser”</i> Computer Science Department, University of Exeter, UK.</p>	27/10/2016
<p><i>“How (not) to design the new best optimisation algorithm every weekend”</i> Department of Automatic Control & Systems Engineering (ACSE), University of Sheffield, UK.</p>	4/5/2016
<p><i>“A practical introduction to irace”</i> NEO Research Group, University of Málaga, Spain.</p>	10/6/2015
<p><i>“Optimization for Complex Real-World Problems”</i> University of Namur, Belgium.</p>	5/3/2015
<p><i>“Metaheuristics From Complex Problems to Automatic Configuration”</i> Institute of Applied Mathematics and Information Technology (IMATI), Milano, Italy.</p>	10/11/2014
<p><i>“Automatic Configuration and Design of Algorithms”</i> KU Leuven, Belgium.</p>	10/11/2014
<p><i>“irace: Iterated Racing for Automatic Algorithm Configuration”</i> Université of Liège, Belgium.</p>	6/5/2014
<p><i>“Generating Hybrid Local Search Algorithms From a Grammar”</i> KULAK, KU Leuven, Belgium.</p>	11/4/2014
<p><i>“The irace Package: Iterated Race for Automatic Algorithm Configuration and Scoring Function Parameterisation”</i> Cambridge Crystallographic Data Centre, Cambridge, United Kingdom. Invited by Dr. Oliver Korb.</p>	17/10/2011

Conference Organization

- Editor-in-Chief of the “*Genetic and Evolutionary Computation Conference (GECCO)*”, Prague, Czech Republic (2019).
- Area Chair for AutoML Conference 2022 (Main Track).
- Stream Organiser:
 - 2022 “*Multiobjective Combinatorial Optimization*” stream of the 32nd European Conference on Operational Research (EURO), Espoo, Finland, with Matthias Ehrgott
 - 2021 “*Multiobjective Combinatorial Optimization*” stream of the 31st European Conference on Operational Research (EURO), Athens, Greece, with Luís Paquete
 - 2020 “*Multiobjective Optimization*” stream of the 22nd Conference of the International Federation of Operational Research Societies (IFORS), Seoul, Korea, with Richard Allmendinger
 - 2018 “*Multiobjective Optimization*” stream of the 29th European Conference on Operational Research (EURO), Valencia, Spain, with Kaisa Miettinen and Michael Emmerich
- Programme Chair:
 - 2018 “*18th European Conference on Evolutionary Computation in Combinatorial Optimisation*” (EvoCOP), Parma, Italy, with Arnaud Liefvooghe
 - 2017 “*17th European Conference on Evolutionary Computation in Combinatorial Optimisation*” (EvoCOP), Amsterdam, The Netherlands, with Bin Hu
 - 2016 “*Tenth International Conference on Swarm Intelligence*” (ANTS), Brussels, Belgium, with Xiaodong Li and Kazuhiro Ohkura
 - 2016 “*14th International Conference on Parallel Problem Solving from Nature*” (PPSN), Edinburgh, UK, with Gabriela Ochoa and Julia Handl
- Local Chair of the 13th International Conference on Swarm Intelligence (ANTS 2022), Malaga, Spain (November 2-4, 2022).
- Co-organiser, with Sašo Džeroski, Dragi Kocev, and Bertrand Le Saux, of “*Space and Artificial Intelligence*”, online conference in association with ECML PKDD 2021, September 2021.
- Co-Chair, with John Woodward and Daniel Tauritz, of the “*Workshop on Evolutionary Computation for the Automated Design of Algorithms (ECADA)*”, at the Genetic and Evolutionary Computation Conference (GECCO) 2015–2018, 2021.
- Co-Chair, with Holger H. Hoos, of the “*Evolutionary Combinatorial Optimization and Metaheuristics Track*” at the Genetic and Evolutionary Computation Conference (GECCO), Denver, USA (2016).
- Chair and Organizer of the session “*Algorithmic Components of Evolutionary Multi-objective Optimization*” at the 28th European Conference on Operational Research, EURO 2016, Poznan, Poland (2016).
- Co-Chair, with Sanaz Mostaghim, of the “*Ant Colony Optimization and Swarm Intelligence Track*” at the Genetic and Evolutionary Computation Conference (GECCO), Madrid, Spain (2015).
- Co-organizer, with Franco Mascia, of the “*COMEX Workshop on Practical Automatic Algorithm Configuration*”, Brussels, Belgium (November 2014).

- Co-Chair, with Thomas Stützle, of the “*Evolutionary Combinatorial Optimization and Metaheuristics Track*” at the Genetic and Evolutionary Computation Conference (GECCO), Amsterdam, The Netherlands (2013).

Editorial Activity

- Guest Editorial Board of the Journal Track of the *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases* (ECML-PKDD), 2021.
- *Engineering Applications of Artificial Intelligence (EAAI)*, Elsevier, Editorial Board Member since January 2022. (2020 ISI-JCR IF: 6.212)
- *Evolutionary Computation*, MIT Press, Editorial Board Member and Associate Editor since April 2019. (2020 ISI-JCR IF: 3.277)
- *ACM Transactions on Evolutionary Learning and Optimization (TELO)*, Editorial Board Member and Associate Editor since July 2019, Area Editor since August 2020, co-Editor-in-Chief with Prof Juergen Branke (University of Warwick) since April 2022.
- *Swarm Intelligence*, Springer, Associate Editor since October 2015. (2020 ISI-JCR IF: 2.143)
- *Operations Research Perspectives*, Elsevier, editorial board member since July 2016.

Reviews of Project Proposals

- Engineering and Physical Sciences Research Council (EPSRC), United Kingdom, 2012, 2018, 2022.
- External Individual Evaluation of European Research Council (ERC) Starting Grant, 2022.
- Spanish National Programme of Industrial R&D and Innovation (“Ayudas para contratos Torres Quevedo”), Spain, 2021.
- Spanish National Programme of R&D Projects (“Programa Estatal Proyectos de I+D de Generación de Conocimiento Tipo B”), Spain, 2020.
- National Fund for Scientific and Technological Research (FONDECYT), Chile, 2020.
- Ministère de l’enseignement supérieur et de la recherche, Programme ECOS-SUD, France, 2020.
- Remote Referee of European Research Council (ERC) Consolidator Grant, 2020.
- National Commission for Scientific and Technological Research (CONICYT), Chile, 2019.
- Leverhulme Trust Grant, United Kingdom, 2017.
- Romanian National Council for Development and Innovation, Romania. Evaluation of project proposals for 2011 funding call.

Conference Program Committee Membership

GECCO: Genetic and Evolutionary Computation Conference

Boston, USA (2022); Lille, France (2021); Cancun, Mexico (2020); Prague, Czech Republic (2019); Kyoto, Japan (2018); Berlin, Germany (2017); Denver, USA (2016); Vancouver, Canada (2014); Philadelphia, USA (2012); Dublin, Ireland (2011); Portland, Oregon, USA (2010); Seattle, WA, USA (2006)

MIC: Metaheuristics International Conference

Ortigia-Syracuse, Italy (2022)

WCCI: IEEE World Congress on Computational Intelligence / CEC: Congress on Evolutionary Computation

Kraków, Poland (2021); Glasgow, UK (2020); Rio de Janeiro, Brasil (2018); Donostia - San Sebastián, Spain (2017); Vancouver, Canada, (2016); Sendai, Japan (2015); Beijing, China (2014); Cancun, Mexico (2013)

EMO: International Conference on Evolutionary Multi-Criterion Optimization

Shenzhen, China (2021); Michigan, USA (2019); Munster, Germany (2017); Guimarães, Portugal (2015); Sheffield, UK (2013)

PPSN: International Conference on Parallel Problem Solving From Nature

Dortmund, Germany (2022); Leiden, The Netherlands (2020); Coimbra, Portugal (2018); Ljubljana, Slovenia (2014); Taormina, Italy (2012)

EA: Evolution Artificielle, Artificial Evolution

Exeter, England (2022); Mulhouse, France (2019); Paris, France (2017); Lyon, France (2015)

IJCAI: International Joint Conference on Artificial Intelligence

Montreal, Canada (2021); Buenos Aires, Argentina (2015); Beijing, China (2013); Barcelona, Spain (2011)

EvoCOP: European Conference on Evolutionary Computation in Combinatorial Optimisation

Seville, Spain (2022); Seville, Spain (2021); Seville, Spain (2020); Leipzig, Germany (2019); Parma, Italy (2018)

SSCI: IEEE Symposium Series on Computational Intelligence

Singapore, (2022)

FOGA: ACM/SIGEVO Workshop on Foundations of Genetic Algorithms

Dornbirn, Austria (2021); Potsdam, Germany (2019)

ANTS: International Conference on Swarm Intelligence

Barcelona, Spain (2020); Rome, Italy (2018); Brussels, Belgium (2010, 2012, 2014)

HM: Hybrid Metaheuristics

Concepción, Chile (2019); Plymouth, United Kingdom (2016); Hamburg, Germany (2014); Viena, Austria (2010); Udine, Italy (2009)

SLS: International Workshop on Stochastic Local Search Algorithms

University of Lille, Lille, France (2019)

MOD: International Workshop on Machine Learning, Optimization and Big Data

Volterra, Italy (2016)

LION: Learning and Intelligent Optimization

LION9, Lille, France (2015); LION8, Florida, USA (2014); LION7, Catania, Italy (2013); LION6, Paris, France (2012); LION5, Rome, Italy (2011); LION4, Venice, Italy (2010)

IAM: 6th Workshop on Industrial Applications of Metaheuristics (at GECCO)

Lille, France (2021)

BBOB: International Workshop on Black Box Discrete Optimization Benchmarking (at GECCO)

Kyoto, Japan (2018)

ICACI: International Workshop on Benchmarking of Computational Intelligence Algorithms (BOCIA)
at the Tenth International Conference on Advanced Computational Intelligence
Xiamen, China (2018)

ICORES: International Conference on Operations Research and Enterprise Systems
Porto, Portugal (2017); Rome, Italy (2016)

ICART: International Conference on Agents and Artificial Intelligence
Porto, Portugal (2017); Rome, Italy (2016)

AAAI: Twenty-Ninth AAAI Conference on Artificial Intelligence
Austin, Texas (2014)

ECAI: European Conference on Artificial Intelligence
Prague, Czech Republic (2014)

MCDM: International Conference on Multiple Criteria Decision Making
(Evolutionary Multiobjective Optimization Session), Málaga, Spain (2013)

MIBISOC: International Conference on Medical Imaging using Bio-inspired and Soft Computing
Brussels, Belgium (2013)

Reviews for International Journals

<i>IEEE Transactions on Evolutionary Computation</i>	2006, 2009–2011, 2013–2022
<i>European Journal of Operational Research</i>	2013, 2014, 2016–2022
<i>Evolutionary Computation Journal</i> , MIT Press	2006–2018, 2020–2022
<i>Computers & Operations Research</i>	2008 (special issue on “Hybrid Metaheuristics”), 2009, 2011, 2014–2016, 2018, 2020–2022
<i>Machine Learning</i> , Springer	2020, 2021
<i>ACM Transactions on Evolutionary Learning and Optimization (TELO)</i>	2020
<i>Operations Research Perspectives</i>	2017, 2020, 2021
<i>Swarm Intelligence</i> , Springer New York	2008 (special issue on “Ant Colony Optimization”), 2009, 2011, 2012, 2015–2021
<i>Artificial Intelligence</i> , Elsevier	2015, 2017, 2020, 2021
<i>Journal of Heuristics</i> , Springer	2010–2019
<i>Data Mining and Knowledge Discovery</i>	2021
<i>Journal of Artificial Intelligence Research (JAIR)</i>	2017, 2021
<i>International Transactions in Operational Research</i>	2015, 2018
<i>Computers & Industrial Engineering (EAAI)</i>	2009, 2010, 2016, 2017
<i>International Journal of Automation & Computing</i>	2017
<i>IEEE Computational Intelligence Magazine</i>	2014 (special issue on “Computational Intelligence in Production and Logistics Systems”), 2017
<i>Soft Computing</i> , Springer	2011, 2017
<i>Applied Soft Computing</i> , Elsevier	2012–2014, 2016, 2021
<i>Theoretical Computer Science</i>	2016
<i>IEEE Transactions on Cybernetics</i>	2016 (when known as <i>IEEE Transactions on Systems, Man, and Cybernetics–Part B: Cybernetics</i>), 2010, 2012, 2013
<i>Information Sciences</i>	2016

<i>Transactions on Computational Collective Intelligence</i> , Springer	2016
<i>AI Communications</i> , IOS Press	2011, 2016
<i>The R Journal</i>	2016
<i>Mathematical Problems in Engineering</i>	2015
<i>Annals of Operations Research</i>	2015
<i>Artificial Intelligence Review</i> , Springer	2015
<i>Knowledge-Based Systems</i> , Elsevier	2015
<i>Journal of Water Resources Planning and Management</i> , ASCE	2014
<i>Journal of Industrial and Management Optimization</i> , AIMS	2007, 2014
<i>Communications of the ACM</i>	2013
<i>Journal of Hydroinformatics</i>	2010, 2013
<i>IEEE Transactions on Parallel and Distributed Systems</i>	2013
<i>PLoS ONE</i> , Public Library of Science	2012
<i>Journal of Global Optimization</i> , Springer	2011, 2012
<i>European Journal of Industrial Engineering</i>	2012
<i>Fundamenta Informaticae</i> , IOS Press	2012
<i>Computational Optimization and Applications</i>	2006, 2012
<i>International Journal of Production Economics</i>	2012
<i>Journal of Computer Science and Technology</i>	2011
<i>Journal of Multi-Criteria Decision Analysis</i> , Wiley	2011
<i>Engineering Optimization</i> , Taylor & Francis	2011
<i>Engineering Applications of Artificial Intelligence</i> , Elsevier	2011, 2022
<i>Natural Computing</i> , Springer	2011
<i>International Journal of Information Technology & Decision Making</i>	2010
<i>Expert Systems</i> , Wiley	2010
<i>Adaptive Behavior</i>	2010
<i>Journal of Systems and Software</i> , Elsevier	2010
<i>Integrated Computer-Aided Engineering</i>	2010
<i>BRAIN: Broad Research in Artificial Intelligence and Neuroscience</i>	2010
<i>Journal of Aerospace Computing, Information, and Communication</i> , AIAA	2009
<i>Computational Intelligence</i> , Wiley	2009
<i>International Journal of Intelligence Systems</i>	2007 (special issue “Nature Inspired Cooperative Strategies for Optimization”)
<i>Mathematics and Computers in Simulation (MATCOM)</i> , Elsevier	2007

Reviews of Book Chapters

- Chapter of the book “*Handbook of Heuristics*”, Springer (2018).
- Chapter of the book “*Optimization Techniques for Solving Complex Problems*”, Wiley (2008).

Reviews for Conferences

- 18th International Conference on Theory and Applications of Satisfiability Testing (SAT 2015), Austin, Texas, USA, 2015.
- 17th IEEE International Conferences on High Performance Computing and Communications (HPCC), New York, USA, 2015.
- Metaheuristics International Conference (MIC), Udine, Italy, 2011.
- 2nd Doctoral Symposium on Computing, York, UK, 2008.
- IEEE World Congress on Computational Intelligence (WCCI), Hong Kong, 2008.
- 14th Annual European Symposium on Algorithms (ESA), Zürich, Switzerland, 2006.
- Fifth International Workshop on Ant Colony Optimization and Swarm Intelligence (ANTS), Brussels, Belgium, 2006.

Panel Membership

- Expert panel member of the *Student Workshop* at the Genetic and Evolutionary Computation Conference, GECCO 2014.

Supervision of PhD students (advisor and co-promoter)

11. Ozioma Paul “NWSSDTP-CASE PhD Studentship: Large-Scale School Bus Routing inclusive of Special Needs Students and Heterogeneous Fleets in the North West” (September 2021–Present), dir. Julia Handl and Manuel López-Ibáñez, University of Manchester, UK.
10. Stefan Pricopie “Tuning Bayesian Optimization for Problems with Dynamic Resource Constraints” (October 2020–Present), dir. Richard Allmendinger, Matt Benatan, Manuel López-Ibáñez and Joshua Knowles, University of Manchester, UK.
9. Maura Hunt “Exploring Computational Rationality to Better Understand Human Interactions with Multi-Criteria Optimization” (September 2019–Present), dir. Manuel López-Ibáñez, Paul Warren and George Farmer, University of Manchester, UK.
8. Youngmin Kim “Safety-Oriented Learning and Optimisation Algorithms and Their Applications” (September 2019–Present), dir. Richard Allmendinger and Manuel Lopez-Ibáñez, University of Manchester, UK.
7. Andreea Avramescu “Data-driven Optimization for Personalized Medicine Development and Delivery” (September 2019–Present), dir. Richard Allmendinger and Manuel López-Ibáñez, University of Manchester, UK.
6. Seyed Mahdi Shavarani “Quantitative Models of Realistic Human Decision-Makers for Data Analytics and Optimisation” (January 2019–Present), dir. Manuel López-Ibáñez and Richard Allmendinger, University of Manchester, UK.
5. Mudita Sharma “Learning to Control Differential Evolution Operators” (2016–January 2020), dir. Dimitar Kazakov and Manuel López-Ibáñez, University of York, UK.
4. Lucía Rivadeneira Barreiro “Decision Modelling Driven by Twitter Data: A Case Study of the 2017 Presidential Election in Ecuador” (September 2015–December 2019), dir. Jian-bo Yang and Manuel López-Ibáñez, University of Manchester, UK.
3. Leslie Pérez Cáceres “Automatic Algorithm Configuration” (2012–2017), dir. Thomas Stützle and Manuel López-Ibáñez, Université libre de Bruxelles, Belgium.
2. Leonardo C. T. Bezerra “A Component-wise Approach to Multi-objective Evolutionary Algorithms” (2012–2016), dir. Thomas Stützle and Manuel López-Ibáñez, Université libre de Bruxelles, Belgium.
1. Jérémie Dubois-Lacoste “Anytime Local Search for Multi-Objective Combinatorial Optimization: Design, Analysis and Automatic Configuration” (2009–2014), dir. Thomas Stützle and Manuel López-Ibáñez, Université libre de Bruxelles, Belgium.

(Co-)Supervisor role of Master’s (MSc) thesis

At University of Manchester:

1. Abraham Gonzalez (2022), *Machine Learning Applied To Intra-Day Price Movement Prediction Of Mexican Stocks*.
2. Martin Knaze (2022), *Meta-Learning and Hyperband: Proposing and Benchmarking a Novel Solution for Few-shot AutoML*.

3. Eni Botsi (2022), *Machine Learning Explainability Techniques Applied To Real-World Data*.
4. Caitlin Hilliard (2022), *An Empirical Analysis of Reproducible Research in Operations Research Journals*.
5. Ho Yan Enoch Cheng (2022), *An Empirical Analysis and Hyper-parameter Optimisation of an Algorithm Selector*.
6. Johanna Ettl (2022), *Analysing the Potential of Project Data Analytics to Facilitate Project Assurance*.
7. Revecca Christou (2021), *Modelling And Optimizing The School Bus Routing and Scheduling Problem by Using Local Search Improvement Techniques: A Real-World Case Study*.
8. Yirong Wang (2021), *Cutting Stock Optimisation For Conservatory Roof Design As A Way To Meet Customer Needs And Sustainability Goals*.
9. Nicolas Montano Cardenas (2021), *Optimal Classification Trees and Optimal Regression Trees*.
10. Deepanshu Narula (2021), *Rank Learning methods: A Review*.
11. Kenzy Drewty Kusmulyadi (2020), *Multiobjective Optimization for Optimal Camera Placement*.
12. Savvas Aravantinos (2020), *Demand Forecasting for Airline Space*.
13. Maria Olympia Zeeri (2020), *School Bus Routing Optimisation Problem*.
14. Alessandro Samaja (2019), *Selection of a subset of items with non-linear benefit*.
15. Epameinondas Tsokanos (2019), *Prediction of sets, mixtures and compositions*.
16. Ilias Raftoulis (2019), *Optimal dynamic management of adwords campaign*.
17. Maura Hunt (2019), *Using computational rationality to improve the modelling of human biases in goal programming*.
18. Jianglu Li (2019), *Make-to-order Production Allocation with Time-sensitive Pricing*.
19. Xiaoyang Chen (2019), *Worklessness in North West England*.
20. Aleksandra Firkowska (2018), *Outlet Inventory Management based on Stock Mix Optimisation*.
21. Elias Schede (2018), *Optimization of Multi-Objective Order Assignment and Price Quotation*.
22. Zhi Li (2018), *Real time order scheduling in supply chain management of manufacturing industry: A multi-objective optimization approach*.
23. Tomas Surik (2017), *Sequential Testing by means of Racing*.
24. Ulkar Hasan (2017), *Optimal Portfolio Selection with Logic Dependence and Budget Constraints*.
25. Zixuan Wang (2017), *Multiobjective Optimisation guided by Evidential Reasoning*.
26. Xiaoqian Jiang (2017), *Simultaneous optimization of sales price and production allocation: Literature review of strategies and real use cases*.
27. Jindan Li (2016), *Forecasting Retail Sales of Walmart's Stores*.
28. Xuan Du (2016), *Multiple Objective Parameter Selection for Classifiers*.

29. Akshay Saxena (2016), *Prediction of Prices using Machine Learning Techniques*.
30. Shengian Li (2016), *Open Data Sources in the City of Manchester*.
31. Xiaoyan Yuan (2016), *Prices Forecast for Raw Materials and Final Products*.
32. Yurui Cui (2016), *GP Practice Assessments and Recommendations in Manchester Based on Customer Satisfaction*.

At other universities:

33. Aurelien Marion (2015), *Fast heuristics for the longest common subsequence problem*, Université libre de Bruxelles, Belgium.
34. Javier Pérez (2014), *A framework of ant colony optimization for the automatic design on permutation problems*, Universidad Politécnica de Madrid, Spain.
35. Luc Coene (2013), *Two-Phase and Pareto Local Search for multi-objective continuous optimization*, Université libre de Bruxelles, Belgium.
36. Andreea Radulescu (2012), *Automatically Improving the Anytime Behaviour of Multiobjective Evolutionary Algorithms*, Université Nantes, France. Related publications: [IC25]
37. Michael Maur (2010), *Adaptive Ant Colony Optimization for the Traveling Salesman Problem*, Technical University of Darmstadt, Germany. Related publications: [IC12] [BC5]

PARTICIPATION IN EXAMINATION PANELS

Participation in PhD Defense Jury / Panel

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| Jun 2021 | George Hall. <i>A Framework for the Runtime Analysis of Algorithm Configurators</i> , University of Sheffield, UK (External examiner). |
| Mar 2020 | Cameron Shand. <i>Evolutionary algorithms in clustering: Challenging problem generation and search space adaptation</i> , University of Manchester, UK (Internal examiner). |
| Dec 2019 | Wendi Ouyang. <i>Regional sustainable development efficiency assessment model with the future performance for OECD countries: based on dynamic ratio measure model with network</i> , University of Manchester, UK (Internal examiner). |
| Oct 2019 | Federico Pagnozzi. <i>Automatic Design of Hybrid Stochastic Local Search Algorithms: Analysis and application</i> , Université libre de Bruxelles, Belgium (External examiner). |
| Nov 2018 | Cristóbal Barba González. <i>Big Data Optimization: Algorithmic Framework for Data Analytics Guided by Semantics</i> , Universidad de Málaga, Spain (External examiner). |
| Feb 2018 | Nguyen Thi Thanh Dang. <i>Data analytics for algorithm design</i> , KU Leuven, Belgium (External examiner). |
| Apr 2016 | Annelies De Corte. <i>Optimization of water distribution networks using metaheuristics</i> , Faculty of Applied Economics, University of Antwerp, Belgium (External examiner). |
| Dec 2015 | Mohamed Saifullah Hussin. <i>Stochastic Local Search Algorithms for Single and Bi-objective Quadratic Assignment Problems</i> , Université libre de Bruxelles, Belgium (External examiner). |
| May 2015 | Leticia Hernando. <i>Instances of Combinatorial Optimization Problems: Complexity and Generation</i> , University of the Basque Country, Spain (External examiner). |
| Jun 2013 | Tianjun Liao. <i>Population-based Heuristic Algorithms for Continuous and Mixed Discrete-Continuous Optimization Problems</i> , Université libre de Bruxelles, Belgium (Internal examiner). |

Evaluation of PhD Theses

- Aug 2022 **Kendall Taylor**. *Preference Learning for Multi-objective Optimisation Problems*, RMIT University, Melbourne, Australia (External examiner).
- Oct 2017 **Esteban López Camacho**. *Optimización multi-objetivo en las ciencias de la vida*, Universidad de Málaga, Málaga, Spain (External examiner).
- Dec 2015 **Fernando Alvarruiz Bermejo**. *Reducción del Tiempo de Simulación de Redes de Distribución de Agua mediante el Método de Mallas y la Computación de Altas Prestaciones*, Universitat Politècnica de València, València, Spain (External examiner).

Participation in Proposal Evaluation and Progress Review Panels

At University of Manchester:

- May 2022 DBA End of year review of Ayesha Alhosani.
- Jun 2021 DBA End of year review of Ayesha Alhosani.
- Jul 2020 DBA End of year review of Ayesha Alhosani.
- Jul 2018 PhD End of year review of Wendi Ouyang.
- Jul 2018 PhD End of year review of Chidinma Chukwuemeka.
- Jul 2017 DBA End of year review of Jeffry Savitz.
- Jul 2017 PhD End of year review of Wendi Ouyang.
- Jul 2017 PhD End of year review of Chidinma Chukwuemeka.
- Jul 2016 PhD End of year review of Wendi Ouyang.

At other universities:

- Nov 2019 **Carlos Eduardo Morais Vieira**. Undergraduate thesis for Bachelor in Computer Science, *Assessing irace for automated machine learning*, Federal University of Rio Grande do Norte.
- Jan 2016 **Nicolás Emilio Rojas Morales**. Evaluation panel, *PhD thesis proposal*, Universidad Técnica Federico Santa María, Valparaiso, Chile.
- Jan 2016 **Alan Juan Toledo Vargas**. Ms. Thesis (Tesis de Magister en Ciencias de la Ingeniería Informática), *Una Hiperheurística para resolver Orienteering Problem with Hotel Selection and Time Windows*, Universidad Técnica Federico Santa María, Valparaiso, Chile.

TEACHING EXPERIENCE

- Director of Postgraduate Programmes, Alliance Manchester Business School, University of Manchester, UK (Aug 2022 – Jul 2025)
- Programme Director “MSc Business Analytics: Operational Research and Risk Analysis”, Alliance Manchester Business School, University of Manchester, UK (Aug 2018 – Jul 2020)
(QS Ranking 2020: 8th in the world and 2nd in UK, <https://www.topuniversities.com/university-rankings/business-masters-rankings/business-analytics/2020>)
(QS Ranking 2019: 7th in the world and 2nd in UK, <https://www.topuniversities.com/university-rankings/business-masters-rankings/business-analytics/2019>)

MSc/PhD Training Schools

SIGEVO (ACM) Summer School	20/6/2022 – 24/6/2022
Lecturer	
SIGEVO (ACM) Summer School	5/7/2021 – 9/7/2021
Lecturer. Held along with ACM GECCO 2021, Online Conference.	
28th Jyväskylä Summer School	13/8/2018 – 17/8/2018
Designed and delivered the course: “Data Analytics + Machine Learning + Optimization”, University of Jyväskylä, Finland	
Training School of COST Action CA15140	21/10/2017
Full-day lecturer. Held at Pierre et Marie Curie University, Paris, France	
SIGEVO (ACM) Summer School	14/7/2017 – 21/7/2017
Lecturer and Mentor. Held along with ACM GECCO 2017, Berlin, Germany	

MSc Teaching

At Alliance Manchester Business School, UK:

Mathematical Programming and Optimisation	WS/2019-20, WS/2020-21
Course coordinator, lectures, seminars	
Programming in Python for Business Analytics	SS/2017, WS/2018-21
Course coordinator, lectures, seminars	
Data Visualisation and Statistical Programming	16/6/2016
Full-day workshop, DBA (Doctor of Business Administration) Research Conference	
Risk, Performance and Decision Analysis	SS/2016
Lecturer, Seminars	

At Warwick Business School, University of Warwick, UK:

Business Analytics with Python	8/3/2017, 15/3/2017
Full-day (2 days) module for MSc students	

At Université libre de Bruxelles, Brussels, Belgium:

Heuristic Optimization	SS/2011 and SS/2013
Seminars, design of coursework	

Undergraduate Teaching

At University of Málaga, Spain:

Programming I Course coordinator, lectures and practical seminars	WS/2020, WS/2021
Analysis and Design of Algorithms Practical seminars	WS/2021

At Alliance Manchester Business School, UK:

Decision Analysis for Business & Management Lecturer	SS/2016-17
Quantitative Methods for Business & Management Course coordinator, lecturer	SS/2016-18
Academic and Career Development Seminar leader	2016/7
Human Computer Interaction Seminars	WS/2015

Teaching assessments

- *Outstanding Teaching Award*, Faculty of Humanities, University of Manchester, UK (Oct 2020)
- Fellow of The Higher Education Academy in recognition of attainment against the UK Professional Standards Framework for teaching and learning support in higher education (Nov 2018)
- “Teaching Excellence” acknowledgment by Alliance Manchester Business School on 2018/19 and 2019/20.
- “*Programming in Python for Business Analytics*” was created by me in 2016/7 and it achieved an “Excellent” rating within the course evaluation process of Alliance Manchester Business School.
- Overall assessment of Faculty Peer Review of Teaching, University of Manchester (2016): “*All, or almost all, aspects of the teaching reviewed were of very high quality, few or no suggestions for improvement could be made*”
- Periodic Review by eLearning Team, Alliance Manchester Business School (2016): “*[Quantitative Methods for Business & Management] is an engaging, easy to use Blackboard space for students.*”

Memberships of academic and professional bodies

- Elected member of the Business Committee of GECCO** 2024 – 2028
in charge of selecting and advising the General Chair and Editor-in-Chief of the Genetic and Evolutionary Computation Conference (GECCO).
- Chair of the Selection Committee for the ACM SIGEVO Best Dissertation Award** 2020 – 2022
The award carries a monetary value of 2,000 USD to be awarded to the winner and 1,000 USD to each of the honourable mentions.
- Member of the IEEE Task Force** Oct 2019 – Present
on Automated Algorithm Design, Configuration and Selection.
- Elected member of the ACM SIGEVO Executive Board** Jul 2019 – Present
SIGEVO is the Special Interest Group on Evolutionary Computation of the ACM society.
- Steering Committee Member of EvoCOP** May 2017 – Present
the European Conference on Evolutionary Computation in Combinatorial Optimisation.

Public policy advice/service in a professional capacity

- Organising committee member of the Theme Development Workshop** Feb 2022 – May 2022
“AI for Future Manufacturing”, within the context of the TAILOR project funded by the European Commission (EC). The reports generated from the workshop are submitted to the EC.
- Committee Member of Special Interest Group “AI on Space”** Feb 2021 – Present
created by CLAIRE (Confederation of Laboratories for Artificial Intelligence Research in Europe) and ESA (European Space Agency) with the goal of coordinating activities and policies to accelerate the development of both AI and Space-related research.

University Roles

- Lead representative of the University of Málaga, Spain** 2020 – 2022
in the International AI Doctoral Academy (AIDA), a joint initiative of ICT-48 networks (AI4Media, ELISE, HumanE-AI NET, TAILOR) and the VISION consortium.
- Member of the Knowledge Transfer Committee** 2022 – 2022
of the Institute of Technology and Software Engineering (ITIS), University of Málaga, Spain.

REFERENCES

References are available upon request.