

CURRICULUM VITAE

PERSONAL INFORMATION

Name **Ana Luísa da Graça Batista Custódio**
Actual address Dept. Mathematics, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa,
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E-mail alcustodio@fct.unl.pt
Web page <https://docentes.fct.unl.pt/algb>
Nationality Portuguese
Date of birth 13/01/1975

ACADEMIC EDUCATION

Dates (From – To) 2003 - 2007
Degree Ph.D in Mathematics, Speciality of Operations Research
Institution Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa
Adviser Professor Luís Nunes Vicente
Dates (From – To) 1998 - 2001
Degree Master in Operations Research and Systems Engineering
Institution Instituto Superior Técnico, Technical University of Lisbon
Adviser Professor Rui Carvalho de Oliveira
Dates (From – To) 1992 - 1997
Degree Degree in Applied Mathematics, Speciality of Operations Research
Institution Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa

OTHER COURSES

Date 30 August to 1 September 2021
Event Nonsmooth optimization
Lecturer Professor Manlio Gaudioso (Università della Calabria, Italy)
Institution EUROPT Summer School
Date 14 June 2016
Event Low-cost methods for large-scale optimization
Lecturer Professor Marcos Raydan (Simon Bolivar University, Venezuela)
Institution CMA-UNL
Date 12 and 13 September 2014
Event Global Optimization: models, algorithms, software, and applications
Lecturer Doctor János D. Pintér (PCS Inc., Canada)
Institution University of Aveiro/APDIO
Date 4 June 2014
Event Is CPLEX like a box of chocolates?
Lecturer Doctor Ricardo M. Lima (Laboratório Nacional de Energia e Geologia, Portugal)
Institution CMA-APDIO

Date	28 July 2013
Event	Sparse optimization and applications to information processing
Lecturers	Professor Stephen J. Wright (University of Wisconsin, Madison, USA) Professor Mário A.T. Figueiredo (Technical University of Lisbon, Portugal)
Institution	Mathematical Optimization Society (4th Mathematical Optimization Society International Conference on Continuous Optimization)
Date	27 July 2013
Event	PDE constrained optimization
Lecturers	Professor Michael Ulbrich (Technical University of Munich, Germany) Professor Christian Meyer (Technical University of Dortmund, Germany)
Institution	Mathematical Optimization Society (4th Mathematical Optimization Society International Conference on Continuous Optimization)
Date	8 June 2011
Event	Stochastic programming - A brief introduction
Lecturer	Professor Francisco Saldanha da Gama (CIO/DEIO, Faculdade de Ciências da Universidade de Lisboa, Portugal)
Institution	APDIO
Date	9 May 2011
Event	(Semi)Definitely the future!: Course on semidefinite optimization
Lecturer	Professor Miguel Anjos (École Polytechnique de Montréal, Canada)
Institution	APDIO
Date	19 November 2010
Event	Course on global optimization
Lecturer	Professor Immanuel Bomze (University of Vienna, Austria)
Institution	APDIO
Date	25 July 2010
Event	Optimization under uncertainty
Lecturers	Professor Andrzej Ruszczyński (Rutgers University, USA) Professor Darinka Dentcheva (Stevens Institute of Technology, USA) Professor Alexander Shapiro (Georgia Institute of Technology, USA) Professor Roger Wets (University of California, USA)
Institution	Mathematical Programming Society (3rd Mathematical Programming Society International Conference on Continuous Optimization)
Date	9 September 2009
Event	Global optimization
Lecturer	Professor Eligius Hendrix (Málaga University, Spain)
Institution	CMA-UNL
Date	8 February 2008
Event	Considerations about theory and practice in nonlinear programming with special focus on an augmented Lagrangian method
Lecturer	Professor José Mario Martínez (University of Campinas, Brazil)
Institution	Centro Internacional de Matemática
Date	12 August 2007
Event	Grid-computing for optimization: modeling and solution
Lecturers	Professor Michael Ferris (University of Wisconsin-Madison, USA) Professor Jeff Linderoth (University of Wisconsin-Madison, USA) Professor Steve Wright (University of Wisconsin-Madison, USA)
Institution	Mathematical Programming Society (2nd Mathematical Programming Society International Conference on Continuous Optimization)

Date 11 August 2007
Event Experimental mathematics with variational applications
Lecturers Professor Jonathan Borwein (Dalhousie University, USA)
 Doctor David Bailey (Lawrence Berkeley National Laboratory, USA)
 Professor Russell Luke (University of Delaware, USA)
Institution Mathematical Programming Society (2nd Mathematical Programming Society
 International Conference on Continuous Optimization)
Date 15 May 2005
Event A practical guide to mixed integer nonlinear programming
Lecturers Doctor Sven Leyffer (Argonne National Laboratory, USA)
 Professor Jeff Linderoth (Lehigh University, USA)
Institution SIAM (Eighth Conference on Optimization)
Date 8 to 11 May 2002
Event School on optimization using surrogates for engineering design
Lecturer Professor John Dennis Jr. (Rice University, USA)
Institution University of Coimbra
Date 4 to 7 June 2001
Event School on integer programming and combinatorial optimization
Lecturer Professor Gerard Cornuéjols (Carnegie Mellon University, USA)
Institution University of Coimbra
Date April 1999
Event Pedagogical improvement university course in complex analysis
Lecturer Professor Teresa Monteiro Fernandes (University of Lisbon, Portugal)
Institution NOVA FCT
Date June 2002
Event English first certificate

PROFESSIONAL EXPERIENCE

Dates (From – To) October 1996 - today
Institution Dept. Mathematics, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa
Position Associate Professor (with tenure)

Year	Fall Term	Spring Term
2024/25	Calculus I (Mathematics)	Numerical Analysis and Optimization
2023/24	Service Accumulation	Calculus I Numerical Analysis and Optimization
2022/23	Calculus I	Calculus I Numerical Analysis and Optimization
2021/22	Calculus I Project in Operations Research	Calculus I
2020/21	Sabbatical Leave	Sabbatical Leave
2019/20	Calculus II E Seminar in Operations Research	Calculus II E
2018/19	Calculus II E	Calculus II E

Responsibility Calculus I (Mathematics), in the fall semester of 2024/25
 Calculus I, in the fall and spring semesters of 2021/23 and in the spring semester of 2023/24
 Project in Operations Research, in the fall semester of 2021/22
 Calculus II E, in the fall and spring semesters of 2018/20
 Seminar in Operations Research, in the fall semester of 2019/20

Regencies
 Calculus I (Mathematics), in the fall semester of 2024/25
 Calculus I, in the fall and spring semesters of 2021/23 and in the spring semester of 2023/24
 Project in Operations Research, in the fall semester of 2021/22
 Calculus II E, in the fall and spring semesters of 2018/20
 Seminar in Operations Research, in the fall semester of 2019/20

Position
Assistant Professor (with tenure, since September 2012)

Year	Fall Term	Spring Term
2017/18	Calculus II E Introd. to Operations Research	Calculus II E
2016/17	Calculus I	Introd. to Operations Research
2015/16	Calculus I Project in Operations Research	Calculus I Introd. to Operations Research
2014/15	Calculus I E Project in Operations Research	Calculus I E
2013/14	Sabbatical Leave	Sabbatical Leave
2012/13	Calculus 0 Calculus I E	Calculus I E
2011/12	Calculus 0 Calculus I C	Calculus I C
2010/11	Calculus 0 Calculus I C	Calculus I D
2009/10	Calculus 0 Calculus I C	Service Accumulation
2007/09	Calculus 0 Calculus I D	Calculus II D

Lectured Courses

Responsibility
 Calculus II E, in the fall and spring semesters of 2017/18
 Calculus I, in the fall and spring semesters of 2015/16
 Project in Operations Research, in the fall semesters of 2014/16
 Introduction to Operations Research, in the spring semesters of 2015/17 and in the fall semester of 2017/18

Regencies
 Calculus II E, in the fall and spring semesters of 2017/18
 Calculus I, in the fall and spring semesters of 2015/16
 Project in Operations Research, in the fall semesters of 2014/16
 Introduction to Operations Research, in the spring semesters of 2015/17 and in the fall semester of 2017/18
 Calculus I E, in the fall and spring semesters of 2012/13 and 2014/15
 Calculus I C, in the fall semesters of 2009/12 and in the spring semester of 2011/12
 Calculus I D, in the spring semester of 2010/11
 Calculus II D, in the spring semester of 2008/09

Other Courses
 Co-author of the course "Optimização em sala de aula: uma introdução à programação linear e suas extensões", aimed at high school teachers, that took place during the ENSPM2014 in a partnership with the National Portuguese Society of Mathematics (SPM)

Position
Teaching Assistant

Year	Fall Term	Spring Term
2006/07	Research Leave	Calculus II D
2004/06	Research Leave	Research Leave
2003/04	Calculus I	Research Leave
2002/03	Calculus I Introd. to Operations Research	Maternity Leave
2001/02	Calculus I	Calculus IV Operations Research A / Elements of Operations Research

Lectured Courses

Position

Lectured Courses

Stagier Teaching Assistant

Year	Fall Term	Spring Term
1998/01	Calculus I	Calculus IV Operations Research A / Elements of Operations Research
1997/98	Calculus I	Calculus IV

Position

Lectured Courses

Monitor

Year	Fall Term	Spring Term
1996/97	Calculus V	Calculus VI

Resumed Syllabus

- Calculus 0: Revision of topics lectured in high school
- Calculus I (Mathematics): Real variable analysis, Riemann's integration, and first order ordinary differential equations
- Calculus I/I C/I D/I E: Real variable analysis and Riemann's integration
- Calculus II D: Series, real variable analysis in several dimensions, multiple integration, and line and surface integration
- Calculus II E: First order ordinary differential equations, real variable analysis in several dimensions, and multiple integration
- Calculus IV: Multiple integration, line and surface integration, and complex analysis
- Calculus V: Measure theory and Lebesgue's integration
- Calculus VI: Complex analysis
- Introd. to Operations Research: Linear programming, inventory management, project management, decision theory, and simulation; Since 2017/18, linear programming has been replaced by Markov chains
- Numerical Analysis and Optimization: Optimality conditions, line search methods (steepest descent, Newton's method, quasi-Newton's methods), linear conjugate gradients method, SVD and regularization
- Operations Research A / Elements of Operations Research: Inventory management, forecasting, nets, project management, decision theory, and simulation

Dates (From – To)
Company name
Position
Main Activity

October 1996 - July 1997
Informatics Division of Quimigal Adubos, S.A.
Trainee
Responsible for the planning, collection and data analysis of a survey directed to the active clients, aiming to evaluate their company satisfaction

STUDENTS SUPERVISION

Since July 2021

Thesis Title
Feb. 2019 – Feb. 2024

Thesis Title
Since Jan. 2024

PhD thesis supervision of student Everton Silva, from the Department of Mathematics of NOVA FCT
Constrained Multiobjective Derivative-free Optimization
PhD thesis supervision of student Aboozar Mohammadi, from the Department of Mathematics of NOVA FCT
Trust-region Methods for Multiobjective Derivative-free Optimization
Master thesis co-supervision of student Tiago Fernando Chícharo das Neves, from the Department of Mechanical and Industrial Engineering of NOVA FCT

Thesis Title	Otimização topológica multiobjectivo para a obtenção de materiais estruturais com propriedades negativas
Sept. 2021 – Dec. 2022	Master thesis co-supervision of student Bruno Alexandre da Anunciação Baptista, from the Department of Mathematics of NOVA FCT
Thesis Title	Incorporating radial basis functions in global and local direct search
April 2020 – Nov. 2021	Master thesis co-supervision of student Nelson Alexandre Charreu Santos, from the Department of Computer Science of NOVA FCT
Thesis Title	Contributions in Global Derivative-free Optimization to the development of an integrated toolbox of solvers
Sept. 2019 – Jan. 2021	Master thesis co-supervision of student Tiago Alexandre Barrinha Cordeiro, from the Department of Mathematics of NOVA FCT
Thesis Title	A global optimization algorithm using trust-region methods and clever multistart
Feb. 2019 – July 2020	Master thesis co-supervision of student Sérgio Filipe Faustino Tavares, from the Department of Computer Science of NOVA FCT
Thesis Title	Contributions to the development of an integrated toolbox of solvers in Derivative-free Optimization
Oct. 2015 – Nov. 2016	Master thesis supervision of student Samuel Pacheco Marques Vaz Marcos, from the Department of Mathematics of NOVA FCT
Thesis Title	Uma abordagem baseada em procura directa direccional a problemas com ruído
Oct. 2022 – July 2023	Research stay supervision of student Andrea Brilli, in the Center for Mathematics and Applications, framed in the PhD program of the Department of Computer, Control and Management Engineering Antonio Ruberti (DIAG) of University of Rome “La Sapienza”, Italy
Project Title	Enhanced constraint handling in SID-PSM by using mixed interior/exterior merit functions
Dec. 2016 – Jan. 2018	Co-supervision of research fellow Jéssica Vanessa Vaz Morais, framed in the project MARETEC 2015-2017
Jan. 2010 – July 2010	Research stay supervision of student Rodolfo Gotardi Begiato, in the Department of Mathematics of NOVA FCT, framed in the PhD program of the Department of Applied Mathematics of University of Campinas, Brazil
Thesis Title	Métodos derivative-free para resolução de sistemas não lineares
March 2024 – May 2024	Project supervision of student Marta Pozzi, Erasmus Internship, University of Pavia, Italy
Project Title	Redefining the search step in Direct Multisearch (DMS)
April 2021 – June 2021	Project supervision of student Bruno Alexandre da Anunciação Baptista, framed in the curricular unit Seminar in Actuarial Science, Statistics and Operations Research of the Mestrado em Matemática e Aplicações of NOVA FCT
Project Title	BoostGLODS: Redesenhando o passo de procura no algoritmo GLODS
Jan. 2019 – Feb. 2019	Project supervision of student Bárbara Cotrim Rodrigues, from the Department of Mathematics of NOVA FCT, framed in the Program for Introduction to Scientific Research of NOVA FCT
Project Title	Techniques for Derivatives Estimation – An Application in Optimization
Jan. 2018 – Feb. 2018	Project supervision of student Bruno Alexandre da Anunciação Baptista, from the Department of Mathematics of NOVA FCT, framed in the Program for Introduction to Scientific Research of NOVA FCT
Project Title	Estratégias de reinicialização em procura directa
March 2017 – June 2017	Project supervision of student Raquel Santos Fernandes, framed in the curricular unit Seminar in Actuarial Science, Statistics and Operations Research of the Mestrado em Matemática e Aplicações of NOVA FCT
Project Title	Estratégias de inicialização em optimização multiobjectivo sem recurso a derivadas

Jan. 2016 – Feb. 2016	Project co-supervision of student Gonalo Sousa Mendes, from the Department of Computer Science of NOVA FCT, framed in the Program for Introduction to Scientific Research of NOVA FCT
Project Title	Paralelizao de algoritmos de procura directa direcciona
Oct. 2015 – Jan. 2016	Project supervision of student Ricardo Jorge da Conceio Silva, framed in the curricular unit Project in Operations Research of the Mestrado em Matemtica e Aplicao de NOVA FCT
Project Title	Estratgias para definio e actualizao do comprimento de passo em procura directa direcciona
March 2015 – June 2015	Project supervision of student Samuel Pacheco Marques Vaz Marcos, framed in the curricular unit Seminar in Actuarial Science, Statistics and Operations Research of the Mestrado em Matemtica e Aplicao de NOVA FCT
Project Title	Uma abordagem ao rudo, num contexto de optimizao sem derivadas
Oct. 2014 – Jan. 2015	Project supervision of student Samuel Pacheco Marques Vaz Marcos, framed in the curricular unit Project in Operations Research of the Mestrado em Matemtica e Aplicao de NOVA FCT
Project Title	Estratgias no montonas em optimizao sem derivadas em problemas com rudo
Jan. 2014 – Feb. 2014	Project supervision of student Jos Rui Gaspar da Silva, from the Department of Materials Science of NOVA FCT, framed in the Program for Introduction to Scientific Research of NOVA FCT
Project Title	Mtodos de procura em padro: Uma alternativa robusta para optimizao sem derivadas em problemas de engenharia

SCIENTIFIC COMMITTEES

Member of the Scientific Committee of the BSc Course in Mathematics of NOVA FCT, September 2018 – October 2022
Member of the Scientific Committee of the PhD Program in Mathematics of NOVA FCT, September 2018 – October 2022

THESIS COMMITTEES

December 2023	Pierluigi Mansueto, University of Florence, Italy
Title of PhD Thesis	Pareto front reconstruction of multi-objective optimization problems
May 2022	Ludovic Salomon, cole Polytechnique de Montral, Canada
Title of PhD Thesis	Contributions to multiobjective blackbox optimization
January 2022	Lili Song, University of Coimbra, Portugal
Title of PhD Thesis	Modeling Hessian-vector products in nonlinear optimization: New Hessian-free methods
October 2021	Thi Thoi Tran, Universit Toulouse 3 - Paul Sabatier, France
Title of PhD Thesis	Nonlinear optimization of mixed continuous and discrete variables for black-box simulators
December 2020	Sander Dedoncker, KU Leuven, Belgium
Title of PhD Thesis	Adaptive direct search for single- and multi-objective black-box optimization: Algorithms and applications in mechanical engineering
February 2020	Mina Saeed Bostanabad, University of Coimbra, Portugal
Title of PhD Thesis	A Semidefinite Approach to Algebraic Optimization
January 2020	Paulo Ricardo Valentim Francisco, University of Lisbon, Portugal
Title of PhD Thesis	Analysis and Design of a Functional Material for Combined Heat Transfer and Stiffness – Application to the Injection Molding Industry
December 2018	Guido Cocchi, University of Florence, Italy
Title of PhD Thesis	Convergent Descent Methods for Smooth Multiobjective Optimization

October 2016	Abdullah Shamil Hashim Al-Dujaili, Nanyang Technological University, Singapore
Title of PhD Thesis	Multi-Scale Search for Black-Box Optimization: Theory & Algorithms
November 2014	Mahdi Dodangeh, University of Coimbra, Portugal
Title of PhD Thesis	Worst Case Complexity of Direct Search under Convexity
June 2018	Diogo da Costa Ricardo, MSc Course in Mechanical Engineering of NOVA FCT, Portugal
Title of MSc Thesis	Atualização de Modelos de Elementos Finitos Utilizando Lógica Fuzzy

AWARDS

Professor FCT 2015/16, awarded by NOVA FCT students
 Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, for the best senior student in 1996/97
 Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, for the best senior student of Mathematics in 1996/97

FELLOWSHIPS

Short Term Fellowship	June 2005 (Study Stay at the College of William & Mary, USA)
Institution	Calouste Gulbenkian Foundation
Dates (From – To)	October 1989 - July 1996 (High School and Undergraduated Studies)
Institution	Calouste Gulbenkian Foundation

RESEARCH

Identifiers

Researcher ID: A-1657-2012
 Scopus Author ID: 24337267900
 ORCID ID: 0000-0003-0890-7398

Metrics

h-index (source ISI) - 9
 h-index (source Google Scholar) - 13
 i10-index (source Google Scholar) - 14

Research Centers

Coordinator of Center for Mathematics and Applications of Universidade Nova de Lisboa (NOVA Math), since September 2022

Coordinator of the Operations Research Group of Center for Mathematics and Applications of Universidade Nova de Lisboa (CMA-UNL), from October 2015 to September 2018

Member of the Executive Board of the Center for Mathematics and Applications of Universidade Nova de Lisboa (CMA-UNL), from October 2009 to February 2014

Member of the Center for Mathematics and Applications of Universidade Nova de Lisboa (NOVA Math), since January 2007

Member of the Center for Mathematics of University of Coimbra (CMUC), from January 2005 to December 2006

Member of the Center for Mathematics and Applications of Universidade Nova de Lisboa (CMA-UNL), from March 2001 to December 2004

Projects

PI: **BoostDFO: Improving the performance and moving to newer directions in Derivative-Free Optimization** (PTDC/MAT-APL/28400/2017)

Web Page: <https://docentes.fct.unl.pt/algb/pages/boostdfo>

Member: **Sparse and Smoothing Methods for Nonlinear Optimization of Complex Models** (PTDC/MAT/116736/2010)

PI: Professor Luís Nunes Vicente

Web Page: <http://www.mat.uc.pt/~lnv/ss.html>

Member: **Derivative-Free Optimization: Future Challenges and New Applications** (PTDC/MAT/098214/2008)

PI: Professor Luís Nunes Vicente

Web Page: <http://www.mat.uc.pt/~lnv/2dfo.html>

Member: **Computational Mathematical Finance** (PTDC/MAT/64838/2006)

PI: Professor Luís Nunes Vicente

Web Page: <http://www.mat.uc.pt/~lnv/cmfm.html>

Member: **Derivative-Free Optimization and Applications** (POCI/MAT/59442/2004)

PI: Professor Luís Nunes Vicente

Web Page: <http://www.mat.uc.pt/~lnv/dfo.html>

Member: **Randomised Optimisation Algorithms Research Network (ROAR-NET) (COST Action CA22137)**

PI: Professor Carlos Fonseca

Web Page: <https://www.cost.eu/actions/CA22137>

Publications

Algorithmic Design

- A. Brilli, A. L. Custódio, G. Liuzzi, and E. J. Silva, Nonlinear derivative-free constrained optimization with a mixed penalty-logarithmic barrier approach and direct search (2024; submitted)
- E. J. Silva and A. L. Custódio, An inexact restoration direct multisearch filter approach to multiobjective constrained derivative-free optimization (2023; under review)
- A. Mohammadi and A. L. Custódio, A trust region approach for computing Pareto fronts in Multiobjective Optimization, *Computational Optimization and Applications*, 87 (2024) 149 – 179
- A. L. Custódio, E. H. M. Krulikovski, and M. Raydan, A hybrid direct search and projected simplex gradient method for convex constrained minimization (2023; online published in *Optimization Methods and Software*)
- A. L. Custódio, R. Garmanjani, and M. Raydan, Derivative-free separable quadratic modeling and cubic regularization for unconstrained optimization, *4OR*, 22 (2024) 121 – 14
- S. Tavares, C. P. Brás, A. L. Custódio, V. Duarte, and P. Medeiros, Parallel strategies for Direct Multisearch, *Numerical Algorithms*, 92 (2023) 1757 – 1788

- R. Andreani, A. L. Custódio, and M. Raydan, Using first-order information in Direct Multisearch for multiobjective optimization, *Optimization Methods and Software*, 37 (2022) 2135 – 2156
- A. L. Custódio, Y. Diouane, R. Garmanjani, and E. Riccietti, Worst-case complexity bounds of directional direct-search for multiobjective derivative-free optimization, *Journal of Optimization Theory and Applications*, 188 (2021) 73 – 93
- C. P. Brás and A. L. Custódio, On the use of polynomial models in multiobjective directional direct search, *Computational Optimization and Applications*, 77 (2020) 897 – 918
- R. G. Begiato, A. L. Custódio, and M. A. Gomes-Ruggiero, A global hybrid derivative-free method for high-dimensional systems of nonlinear equations, *Computational Optimization and Applications*, 75 (2020), 93 – 112
- A. L. Custódio and J. F. A. Madeira, MultiGLODS: Global and Local Multiobjective Optimization using Direct Search, *Journal of Global Optimization*, 72 (2018), 323 – 345
- A. L. Custódio and J. F. A. Madeira, GLODS: Global and Local Optimization using Direct Search, *Journal of Global Optimization*, 62 (2015), 1 – 28
- L. N. Vicente and A. L. Custódio, Analysis of direct searches for discontinuous functions, *Mathematical Programming*, 133 (2012), 299 – 325
- A. L. Custódio, J. F. A. Madeira, A. I. F. Vaz, and L. N. Vicente, Direct multisearch for multiobjective optimization, *SIAM Journal on Optimization*, 21 (2011), 1109 – 1140
- A. L. Custódio, H. Rocha, and L. N. Vicente, Incorporating minimum Frobenius norm models in direct search, *Computational Optimization and Applications*, 46 (2010), 265 – 278
- A. L. Custódio, J. E. Dennis Jr., and L. N. Vicente, Using simplex gradients of nonsmooth functions in direct search methods, *IMA Journal of Numerical Analysis*, 28 (2008), 770 – 784
- C. Audet, A. L. Custódio, and J. E. Dennis Jr., Erratum: Mesh adaptive direct search algorithms for constrained optimization, *SIAM Journal on Optimization*, 18 (2008), 1501 – 1503
- A. L. Custódio and L. N. Vicente, Using sampling and simplex derivatives in pattern search methods, *SIAM Journal on Optimization*, 18 (2007), 537 – 555
- A. L. Custódio and R. C. Oliveira, Re-designing distribution operations: A case study on integrating inventory management and vehicle routes design, *International Journal of Logistics Research and Applications*, 9 (2006), 169 – 187

Surveys

- A. L. Custódio, K. Scheinberg, and L. N. Vicente, Methodologies and software for derivative-free optimization, Chapter 37 of *Advances and Trends in Optimization with Engineering Applications* (2017), T. Terlaky, M. F. Anjos and S. Ahmed (editors), MOS-SIAM Book Series on Optimization, SIAM, Philadelphia
- A. L. Custódio, M. Emmerich, and J. F. A. Madeira, Recent developments in derivative-free multiobjective optimisation, *Computational Technology Reviews*, 5 (2012), B. H. V. Topping (editor), Saxe-Coburg Publications, 1 – 30

Engineering Applications

- C. Almeida, P. Coelho, J. M. Guedes, A. L. Custódio, F. Conde, and A. Velhinho, Topology optimization of auxetic and negative thermal expansion metamaterials - properties prediction and multiobjective approach (2024; submitted)
- R. F. Silva, P. G. Coelho, F. M. Conde, C. J. Almeida, and A. L. Custódio, Topology optimization of thermoelastic structures with single and functionally graded materials exploring energy and stress-based formulations (2024; under revision)
- A. L. Custódio, M. A. Fortes, and A. M. Sajo-Castelli, Filling holes under non-linear constraints, *Computational and Applied Mathematics*, 42 (2023) Article number 72
- J. V. Morais, A. L. Custódio, and G. M. Marques, Calibration of parameters in Dynamic Energy Budget models using Direct-Search methods, *Journal of Mathematical Biology*, 78 (2019), 1439 – 1458
- S. D. Karamintziou, A. L. Custódio, B. Pierrat, M. Polosan, S. Chabardès, P. G. Stathis, G. A. Tagaris, D. E. Sakas, G. E. Polychronaki, G. L. Tsirogiannis, O. David, and K. S. Nikita, Algorithmic design of a noise-resistant and efficient closed-loop deep brain stimulation system: A computational approach, *PLOS ONE*, 12 (2017), e0171458, 1 – 26
- N. D. Gouveia, A. L. Custódio, D. M. Faria, and A. P. Ramos, Determinação de relações tensão-abertura de fenda de BRFA através de análise inversa, *Proceedings of the 9^o Congresso Nacional de Mecânica Experimental*, Aveiro, Portugal, 2014
- J. B. Cardoso, P. G. Coelho, and A. L. Custódio, Parallel direct search in structural optimization, in P. Iványi and B. H. V. Topping (editors), *Proceedings of the Second International Conference on Parallel, Distributed, Grid and Cloud Computing for Engineering*, Civil-Comp Press, Stirlingshire, UK, Paper 48, 2011

Theses

- A. L. Custódio, *Aplicações de Derivadas Simpléticas em Métodos de Procura Directa*, PhD. Thesis, Universidade Nova de Lisboa, Lisbon, 2007
- A. L. Custódio, *Um Sistema de Gestão Logística Integrando Gestão de Inventário e Construção de Rotas*, Master Thesis, Technical University of Lisbon, Lisbon, 2001

Editorial Activity

- Associate editor of Optimization Methods and Software, since March 2022
- Associate editor of Journal of Optimization Theory and Applications, since June 2021
- Guest editor of the Portuguese Mathematical Society Bulletin, Proceedings of the National Meeting of the Portuguese Mathematical Society, Faro, July 2012, 2013

Invited Talks at Conferences, Minisymposia and Workshops

- A. L. Custódio, E. Krulikowski, and M. Raydan, A hybrid direct search and projected simplex gradient method for convex constrained optimization, 25th International Symposium on Mathematical Programming, Montréal, Canada, July 2024
- E. J. Silva and A. L. Custódio, An inexact restoration direct multisearch filter approach to multiobjective constrained derivative-free optimization, Second Derivative-free Optimization Symposium, Padova, Italy, June 2024
- A. Mohammadi and A. L. Custódio, A trust-region approach for computing Pareto fronts in multiobjective optimization, Recent Advances in Multi-Objective Optimization (RAMOO) Workshop, Rome, Italy, September 2023
- E. J. Silva and A. L. Custódio, An inexact restoration direct multisearch filter approach to biobjective constrained optimization, SIAM Conference on Optimization 2023, Seattle, USA, June 2023
- A. L. Custódio, Directional Direct Search: A robust and efficient class of algorithms for challenging problems in Nonlinear Optimization, 2nd Women in Mathematics Meeting, Braga, Portugal, September 2022 (plenary talk)
- A. Mohammadi and A. L. Custódio, A trust-region based approach to approximate Pareto fronts in multiobjective optimization, Derivative-free Optimization Symposium: Linking Algorithms and Applications, Kelowna, Canada, July 2022
- R. Andreani, A. L. Custódio, and M. Raydan, Using first-order information in Direct MultiSearch, SIAM Conference on Optimization 2021, online edition, July 2021
- R. Andreani, A. L. Custódio, and M. Raydan, Using first-order information in Direct MultiSearch, 31st European Conference on Operational Research, Athens, Greece, July 2021 (online presentation)
- C. P. Brás and A. L. Custódio, On the use of quadratic polynomial models in multiobjective directional direct search, 6th International Conference on Continuous Optimization, Berlin, Germany, August 2019
- A. L. Custódio, J. V. Morais, and G. M. Marques, Calibration of parameters in Dynamic Energy Budget models using Direct-Search methods, 30th European Conference on Operational Research, Dublin, Ireland, June 2019

- A. L. Custódio and J. F. A. Madeira, MultiGLODS: Clever Multistart in Multiobjective Directional Direct Search, EngOpt 2018, 6th International Conference on Engineering Optimization, Lisbon, Portugal, September 2018
- A. L. Custódio, J. V. Morais, and G. M. Marques, Calibration of parameters in Dynamic Energy Budget models using Direct-Search methods, IO 2018, 19th Congress of APDIO, Aveiro, Portugal, September 2018
- A. L. Custódio and J. F. A. Madeira, MultiGLODS: Clever Multistart in Multiobjective Directional Direct Search, 23rd International Symposium on Mathematical Programming, Bordeaux, France, July 2018
- A. L. Custódio and J. F. A. Madeira, MultiGLODS: Global and Local Multiobjective Optimization using Direct Search, Optimization 2017, Lisbon, Portugal, September 2017
- A. L. Custódio and S. Marcos, An approach based on nonmonotone directional direct search to noisy optimization, IFORS 2017, Québec, Canada, July 2017
- A. L. Custódio and J. F. A. Madeira, MultiGLODS: Global and Local Multiobjective Optimization using Direct Search, 15th EUROPT Workshop on Advances in Continuous Optimization, Montréal, Canada, July 2017
- A. L. Custódio and J. F. A. Madeira, MultiGLODS: Clever Multistart in Multiobjective Directional Direct Search, CMN 2015, Congress on Numerical Methods in Engineering, Lisbon, Portugal, June 2015
- A. L. Custódio and J. F. A. Madeira, GLODS: Clever Multistart in Directional Direct Search, EngOpt 2014, 4th International Conference on Engineering Optimization, Lisbon, Portugal, September 2014
- A. L. Custódio and J. F. A. Madeira, GLODS: Clever Multistart in Directional Direct Search, Optimization 2014, Guimarães, Portugal, July 2014
- A. L. Custódio and J. F. A. Madeira, GLODS: Um novo algoritmo para procura directa local e global, National Meeting of the Portuguese Mathematical Society, Caparica, Portugal, July 2014
- A. L. Custódio and J. F. A. Madeira, GLODS: Global and Local Optimization using Direct Search, 4th Mathematical Optimization Society International Conference on Continuous Optimization, Caparica, Portugal, July 2013
- A. L. Custódio, J. F. A. Madeira, A. I. F. Vaz, and L. N. Vicente, Direct multisearch: A robust and efficient approach to multiobjective derivative-free optimization, 21st International Symposium on Mathematical Programming, Berlin, Germany, August 2012
- A. L. Custódio, J. F. A. Madeira, A. I. F. Vaz, and L. N. Vicente, Direct multisearch: A new DFO approach for multiple objective functions, SC2011 International Conference on Scientific Computing, Cagliari, Italy, October 2011
- A. L. Custódio, J. F. A. Madeira, A. I. F. Vaz, and L. N. Vicente, Direct multisearch: A new DFO approach for multiple objective functions, Tenth SIAM Conference on Optimization, Darmstadt, Germany, May 2011
- A. L. Custódio, J. F. A. Madeira, H. Rocha, A. I. F. Vaz, and L. N. Vicente, Direct-search methods for single and multiobjective derivative-free optimization: solving difficult problems in an efficient way, 3rd Iberian Mathematical Meeting, Braga, Portugal, October 2010

- A. L. Custódio, J. F. A. Madeira, A. I. F. Vaz, and L. N. Vicente, Direct-multisearch for multiobjective optimization, EngOpt 2010, 2nd International Conference on Engineering Optimization, Lisbon, Portugal, September 2010
- A. L. Custódio, J. F. A. Madeira, A. I. F. Vaz, and L. N. Vicente, Efficient direct-search solvers for single and multiobjective derivative-free optimization, EURO XXIV 24th European Conference on Operational Research, Lisbon, Portugal, July 2010
- A. L. Custódio, H. Rocha, and L. N. Vicente, Incorporating minimum Frobenius norm models in direct-search, 20th International Symposium on Mathematical Programming, Chicago, USA, August 2009
- A. L. Custódio and L. N. Vicente, Applications of simplex gradients in direct search methods, 2nd Mathematical Programming Society International Conference on Continuous Optimization, Hamilton, Canada, August 2007
- A. L. Custódio and L. N. Vicente, Applications of simplex gradients in direct search methods, Optimization 2007, Porto, Portugal, July 2007
- A. L. Custódio and L. N. Vicente, Improving efficiency in direct search methods, Workshop on Computational Mathematics, Coimbra, Portugal, February 2007
- A. L. Custódio and L. N. Vicente, Improving efficiency in pattern search methods, 19th International Symposium on Mathematical Programming, Rio de Janeiro, Brazil, July 2006
- A. L. Custódio and L. N. Vicente, Using sampling and simplex derivatives in pattern search methods, Eighth SIAM Conference on Optimization, Stockholm, Sweden, May 2005

Contributed Talks

- A. L. Custódio and J. F. A. Madeira, MultiGLODS: Global and Local Multiobjective Optimization using Direct Search, Workshop on Graph Spectra, Combinatorics and Optimization – WGSCO 2018, Aveiro, Portugal, January 2018
- A. L. Custódio and S. Marcos, An approach based on nonmonotone directional direct search to noisy optimization, IO 2017, 18th Congress of APDIO, Valença, Portugal, June 2017
- A. L. Custódio and J. F. A. Madeira, GLODS: Clever Multistart in Directional Direct Search, CMS 2014, 11th International Conference on Computational Management Science, Lisbon, Portugal, May 2014
- A. L. Custódio, J. F. A. Madeira, A. I. F. Vaz, and L. N. Vicente, Direct-multisearch: A robust and efficient alternative for Multiobjective Derivative-free Optimization, Workshop SIMCO: Set-Oriented and Indicator-Based Multi-Criteria Optimization, Leiden, Netherlands, September 2013

- A. L. Custódio and J. F. A. Madeira, GLODS: Global and Local Optimization using Direct Search, IO2013, 16th Congress of APDIO, Bragança, Portugal, June 2013
- A. L. Custódio, J. F. A. Madeira, A. I. F. Vaz, and L. N. Vicente, Direct-multisearch (DMS) for multiobjective optimization, 3rd Mathematical Programming Society International Conference on Continuous Optimization, Santiago, Chile, July 2010
- A. L. Custódio, J. F. A. Madeira, A. I. F. Vaz, and L. N. Vicente, Direct-multisearch (DMS) for multiobjective optimization, 8th EUROPT Workshop on Advances in Continuous Optimization, Aveiro, Portugal, July 2010
- A. L. Custódio, H. Rocha, and L. N. Vicente, Contribuições recentes para a análise e desempenho de métodos de procura directa (in Portuguese), IO2009, 14th Congress of APDIO, Caparica, Portugal, September 2009
- A. L. Custódio, H. Rocha, and L. N. Vicente, Incorporating minimum Frobenius norm models in direct-search, Eighth World Congress on Structural and Multidisciplinary Optimization, Lisbon, Portugal, June 2009
- A. L. Custódio and R. C. Oliveira, A management logistic system integrating inventory management and routing, IFORS 2002, Edinburgh, United Kingdom, July 2002
- A. L. Custódio and R. C. Oliveira, A system of logistic management integrating inventory management and routing, Optimization 2001, Aveiro, Portugal, July 2001

Posters

- N. D. Gouveia, A. L. Custódio, D. M. Faria, and A. P. Ramos, A minimization procedure for the determination of SFRC tensile behaviour, EngOpt 2014, 4th International Conference on Engineering Optimization, Lisbon, Portugal, September 2014
- I. Cascão, R. Gaspar, and A. L. Custódio, The impact of dolphin-watching boats on the resident bottlenose dolphins, *Tursiops truncatus*, in the Sado Estuary Portugal, 18th Annual Conference of the European Cetacean Society, Kolmarden, Sweden, March 2004

Seminars in Universities and Research Centers

- A. L. Custódio, Ten years of Direct Multisearch, Mathematical Institute, Oxford University, United Kingdom, November 2022
- A. L. Custódio, Ten years of Direct Multisearch, Brazilian Optimization Seminar, December 2021 (online presentation)
- A. L. Custódio, Direct Search Methods: A robust and efficient alternative in derivative-free optimization, Institute for Systems and Robotics, Portugal, January 2018

- A. L. Custódio, GLODS: Global and Local Optimization using Direct Search, CMUC, Portugal, February 2014
- A. L. Custódio, Direct-search methods for single and multiobjective derivative-free optimization: solving difficult problems in an efficient way, CMUC, Portugal, January 2011
- A. L. Custódio, Improving efficiency in direct search methods, Département de Mathématique, FUNDP (Namur), Belgium, May 2007
- A. L. Custódio, Improving efficiency in pattern search methods, April 2006:
 - Boeing Company – Phantom Works, USA
 - Optimization Seminar, University of Washington, USA
 - Scientific Computing Seminars, Lawrence Berkeley National Laboratory, USA
- A. L. Custódio, Using sampling and simplex derivatives in pattern search methods, Applied Mathematics Colloquium, College of William & Mary, USA, June 2005

Computational Codes

C. P. Brás, A. L. Custódio, V. Duarte, P. Medeiros, and S. Tavares, BoostDMS (MATLAB), Version 0.2
 Web Page: <https://docentes.fct.unl.pt/algb/pages/boostdfo>

A. L. Custódio and J. F. A. Madeira, MultiGLODS: Global and Local Multiobjective Optimization using Direct Search (MATLAB), Version 0.1
 Web Page: <https://docentes.fct.unl.pt/algb/pages/multiglods>

A. L. Custódio and J. F. A. Madeira, GLODS: Global and Local Optimization using Direct Search (MATLAB), Version 0.3
 Web Page: <https://docentes.fct.unl.pt/algb/pages/glods>

A. L. Custódio, J. F. A. Madeira, A. I. F. Vaz, and L. N. Vicente, Direct MultiSearch (DMS): A solver for derivative-free multiobjective optimization (MATLAB), Version 0.3
 Web Page: <http://www.mat.uc.pt/dms>

A. L. Custódio and L. N. Vicente, SID-PSM: A pattern search method guided by simplex derivatives for use in derivative-free optimization (MATLAB), Version 1.3
 Web Page: <http://www.mat.uc.pt/sid-psm>

Problem Collections

C. P. Brás and A. L. Custódio, A test set for derivative-free multiobjective optimization (MATLAB)
 Web Page: <https://docentes.fct.unl.pt/algb/pages/boostdfo>
 Release Date: June 2020

A. L. Custódio and J. F. A. Madeira, A test set for global optimization (MATLAB)
 Web Page: <https://docentes.fct.unl.pt/algb/pages/glods>
 Release Date: November 2013

A. L. Custódio, J. F. A. Madeira, A. I. F. Vaz, and L. N. Vicente, A test set for derivative-free multiobjective optimization (AMPL)
 Web Page: <http://www.mat.uc.pt/dms>
 Release Date: June 2010

Journals

- 4OR
- Annals of Operations Research
- Applied Mathematics Research Express
- Asia-Pacific Journal of Operational Research
- Computational and Applied Mathematics
- Computational Optimization and Applications
- Computers & Operations Research
- Educação e Matemática
- Engineering and Optimization
- European Journal of Operational Research
- Examples and Counterexamples
- Information Sciences
- INFORMS Journal on Computing
- Journal of Computational Methods in Sciences and Engineering
- Journal of Global Optimization
- Journal of Mechanical Design
- Journal of Optimization Theory and Applications
- Journal of the Franklin Institute
- Mathematical Methods of Operations Research
- Mathematical Programming
- Nature
- Numerical Algorithms
- Optimization
- Optimization and Engineering
- Optimization Letters
- Optimization Methods and Software
- Pacific Journal of Optimization
- Set-Valued and Variational Analysis
- SIAM Journal on Optimization
- SIAM SIAG/Optimization Views-and-News
- Soft Computing
- Swarm and Evolutionary Computation
- Transactions of Tianjin University
- Transactions on Mathematical Software

Conference Proceedings

- ANTS 2016
- ANTS 2014
- CMS 2014
- EngOpt 2014
- MOPTA 2012 Conference
- National Meeting of the Portuguese Association of Operations Research 2018
- National Meeting of the Portuguese Association of Operations Research 2017
- National Meeting of the Portuguese Association of Operations Research 2013
- National Meeting of the Portuguese Mathematical Society 2010

Book Chapters

- Investigação Operacional em Ação – Casos de Aplicação, J. S. Ferreira and R. C. Oliveira (editors), Imprensa da Universidade de Coimbra, 2014
- Derivative-Free and Blackbox Optimization, C. Audet and W. Hare, Springer, 2017

Others

- Mathematical Reviews

Study Stays

Dates (From – To)	7 May 2007 - 10 May 2007
Institution	Dépt. de Mathématique, FUNDP (Namur), Belgium
Supervisors	Professor Annick Sartenaer and Professor Philippe Toint
Dates (From – To)	1 April 2006 - 9 April 2006
Institutions	Dept. of Mathematics, University of Washington / Lawrence Berkeley National Laboratory, USA
Supervisors	Professor John Dennis Jr. and Doctor Juan Meza
Dates (From – To)	19 June 2005 - 24 June 2005
Institution	Dept. of Computer Science, College of William & Mary, USA
Supervisors	Professor Virginia Torczon and Professor Robert Michael Lewis

Research Panels

- Member of the evaluation panel of project “MASTERMIND - development of algorithms for optimization assisted by meta-models in the presence of mixed and dependent variables”, funded by Win2Wal program, Walloon Region, Belgium
- Reviewer for Bourses et Mandats/Grants and Fellowships 2024 - Doctorants/PhD students competition, Fund for Scientific Research FNRS, Belgium

- Member of the Multidisciplinary Reviewer Panel for the New Frontiers in Research Fund (NFRF) Exploration 2023 Competition, Canada
- Member of the 2021 PhD Scholarship Panel in Mathematics of Fundação para a Ciência e a Tecnologia, Portugal
- Reviewer of New Frontiers in Research Fund (NFRF) Exploration 2020 competition, Canada
- Reviewer of 2019 CHIST-ERA Proposals
- Reviewer of 2018 Mitacs Elevate Research Proposals, Canada
- External reviewer of the 2022, 2019, and 2017 NSERCs Discovery Grant Applications, Canada
- Member of the proposal evaluation panel of the 2016 call for research proposals of the National Research Council of Romania
- Member of the proposal evaluation panel of the 2012 call for research proposals of the National Research Council of Romania

Prize Committees

APDIO/IO 2017 Prize, to acknowledge PhD theses in Operations Research, successfully completed in 2015 or 2016

Congresses, Conferences and Workshops

Organizing Committees

- Member of the Organizing Committee of the SIAM Conference on Optimization 2026, 2 to 5 June 2026, University of Edinburgh, United Kingdom
- Co-chair of the Derivative-free Optimization Cluster of the 2025 International Conference on Continuous Optimization (ICCOPT 2025), 19 to 24 July 2025, University of Southern California, USA
- Co-organizer of the Derivative-free and Simulation-based Optimization Stream of the 25th International Symposium on Mathematical Programming (ISMP), 21 to 26 July 2024, Montréal, Canada
- Organizer of two sessions in Optimization 2023, 24 to 26 July 2023, University of Aveiro, Portugal
- Co-organizer of the Derivative-free Optimization Stream of the 19th EUROPT Workshop on Advances in Continuous Optimization, 29 and 30 July 2022, Universidade Nova de Lisboa, Portugal
- Member of the Organizing Committee of the Derivative-Free Optimization Symposium (DFOS): Linking Algorithms and Applications, 17 to 22 July 2022, University of British Columbia, Canada
- Member of the Organizing Committee of the 20th French-German-Portuguese Conference on Optimization, 3 to 6 May 2022, University of Porto, Portugal
- Organizer of the Derivative-free Optimization Stream at the 31st European Conference on Operational Research, 11 to 14 July 2021, University of West Attica, Athens, Greece

- Co-chair of the Derivative-free and Simulation-based Optimization Cluster at the Sixth International Conference on Continuous Optimization, IC-COPT 2019, 3 to 8 August 2019, Technical University of Berlin, Germany
- Organizer of the Derivative-free Optimization Stream at the 30th European Conference on Operational Research, 23 to 26 June 2019, University College Dublin, Ireland
- Co-Organizer of the Mini-Symposium on Challenges in Derivative-free Optimization Methods for Engineering Optimization, EngOpt 2018, 6th International Conference on Engineering Optimization, 17 to 19 September 2018, University of Lisbon, Portugal
- Organizer of the Derivative-free Optimization Stream at the 21st Conference of the International Federation of Operational Research Societies, IFORS 2017, 17 to 21 July 2017, Québec City, Canada
- Co-Organizer of the Mini-Symposium on Recent Progresses in Derivative-Free Methods for Engineering Optimization, CMN 2015, Congresso de Métodos Numéricos em Engenharia, 29 June to 2 July 2015, University of Lisbon, Portugal
- Co-Organizer of the Mini-Symposium on New Advances in Derivative-Free Optimization Methods for Engineering Optimization, EngOpt 2014, 4th International Conference on Engineering Optimization, 8 to 11 September 2014, University of Lisbon, Portugal
- Member of the Organizing Committee of the 4th Mathematical Optimization Society International Conference on Continuous Optimization, 27 July to 1 August 2013, Universidade Nova de Lisboa, Portugal
- Organizer of the thematic sessions in “Optimization and Operations Research”, National Meeting of the Portuguese Mathematical Society 2012, 9 to 11 July 2012, University of Algarve, Portugal
- Co-Chair of the Organizing Committee of the conference Optimization 2011, 24 to 27 July 2011, Universidade Nova de Lisboa, Portugal
- Co-Organizer of the Mini-Symposium on Recent Developments in Derivative-Free Methods for Engineering Optimization, EngOpt 2010, 2nd International Conference on Engineering Optimization, 6 to 9 September 2010, Technical University of Lisbon, Portugal
- Member of the Organizing Committee of the conference Calculus of Variations: From Engineering to Economy, 8 to 10 September 2008, Centro Internacional de Matemática, Universidade Nova de Lisboa, Portugal
- Member of the Organizing Committee of the Workshop on Optimization in Medicine, 20 to 22 July 2005, Centro Internacional de Matemática, IBILI, University of Coimbra, Portugal

Scientific Committees

- Member of the Scientific Committee of the 25th International Symposium on Mathematical Programming (ISMP), 21 to 26 July 2024, Montréal, Canada
- Member of the Scientific Committee of the 2nd Derivative-Free Optimization Symposium (DFOS), 24 to 28 June 2024, University of Padova, Italy
- Member of the Scientific Committee of Optimization 2023, 24 to 26 July 2023, University of Aveiro, Portugal
- Member of the Scientific Committee of the conference EngOpt 2018, 6th International Conference on Engineering Optimization, 17 to 19 September 2018, University of Lisbon, Portugal
- Member of the Scientific Committee of the conference IO2018, 5 to 7 September 2018, University of Aveiro, Portugal
- Member of the Scientific Committee of the conference Optimization 2017, 6 to 8 September 2017, University of Lisbon, Portugal
- Member of the Scientific Committee of the conference IO2017, 28 to 30 June 2017, Polytechnical Institute of Viana do Castelo, Portugal
- ANTS 2016, Tenth International Conference on Swarm Intelligence, 7 to 9 September 2016, Université Libre de Bruxelles, Belgium
- EngOpt 2016, 5th International Conference on Engineering Optimization, 19 to 23 June 2016, Iguassu Falls, Brazil
- Member of the Scientific Committee of the conference ANTS 2014, Ninth International Conference on Swarm Intelligence, 10 to 12 September 2014, Université Libre de Bruxelles, Belgium
- Member of the Scientific Committee of the conference EngOpt 2014, 4th International Conference on Engineering Optimization, 8 to 11 September 2014, University of Lisbon, Portugal
- Member of the Scientific Committee of the conference Optimization 2014, 28 to 30 July 2014, University of Minho, Portugal
- Member of the Scientific Committee of the conference CMS 2014, 11th International Conference in Computational Management Science, 29 to 31 May 2014, University of Lisbon, Portugal
- Member of the Scientific Committee of the conference EngOpt 2012, 3rd International Conference on Engineering Optimization, 1 to 5 July 2012, Federal University of Rio de Janeiro, Brazil
- Member of the Scientific Committee of the conference Optimization 2011, 4 to 27 July 2011, Universidade Nova de Lisboa, Portugal

Participation

- 25th International Symposium on Mathematical Programming (ISMP), 21 to 26 July 2024, Montréal, Canada
- 2nd Derivative-Free Optimization Symposium (DFOS), 24 to 28 June 2024, University of Padova, Italy
- Recent Advances in Multi-Objective Optimization (RAMOO) Workshop, 14th September 2023, University of Rome, Italy
- Optimization 2023, 24 to 26 July 2023, University of Aveiro, Portugal
- SIAM Conference on Optimization 2023, 31st May to 3rd June 2023, Seattle, USA
- 2nd Women in Mathematics Meeting, 7 to 9 September 2022, Braga, Portugal
- 19th EUROPT Workshop on Advances in Continuous Optimization, 29 and 30 July 2022, Universidade Nova de Lisboa, Portugal
- Derivative-Free Optimization Symposium (DFOS): Linking Algorithms and Applications, 17 to 22 July 2022, University of British Columbia, Canada
- 20th French-German-Portuguese Conference on Optimization, 3 to 6 May 2022, University of Porto, Portugal
- SIAM Optimization Conference, 20 to 23 July 2021, virtual edition
- 31st European Conference on Operational Research, 11 to 14 July 2021, University of West Attica, Athens, Greece (online participation)
- Sixth International Conference on Continuous Optimization, ICCOPT 2019, 3 to 8 August 2019, Technical University of Berlin, Germany
- 30th European Conference on Operational Research, 23 to 26 June 2019, University College Dublin, Ireland
- EngOpt 2018, 6th International Conference on Engineering Optimization, 16 to 19 September 2018, University of Lisbon, Portugal
- IO 2018, 19th Congress of APDIO, 5 to 7 September 2018, University of Aveiro, Portugal
- 23rd International Symposium on Mathematical Programming, 1 to 6 July 2018, University of Bordeaux, France
- Workshop on Graph Spectra, Combinatorics and Optimization – WGSCO 2018, 25 to 27 January 2018, University of Aveiro, Portugal
- Optimization 2017, 6 to 8 September 2017, University of Lisbon, Portugal
- IFORS 2017, 17 to 21 July 2017, Québec City, Canada

- 15th EUROPT Workshop on Advances in Continuous Optimization, École Polytechnique de Montréal, Canada, 12 to 14 July 2017, Montréal, Canada
- IO 2017, 18th Congress of APDIO, 28 to 30 June 2017, Polytechnical Institute of Viana do Castelo, Portugal
- CMN 2015, Congress on Numerical Methods in Engineering, 29 June to 2 July 2015, University of Lisbon, Portugal
- EngOpt 2014, 4th International Conference on Engineering Optimization, 8 to 11 September 2014, University of Lisbon, Portugal
- Optimization 2014, 28 to 30 July 2014, University of Minho, Portugal
- National Meeting of the Portuguese Mathematical Society 2014, 14 to 16 July 2014, Universidade Nova de Lisboa, Portugal
- CMS 2014, 11th International Conference in Computational Management Science, 29 to 31 May 2014, University of Lisbon, Portugal
- Workshop SIMCO: Set-Oriented and Indicator-Based Multi-Criteria Optimization, 2 to 6 September 2013, Lorentz Center Leiden, Netherlands
- 4th Mathematical Optimization Society International Conference on Continuous Optimization, 27 July to 1 August 2013, Universidade Nova de Lisboa, Portugal
- IO2013, 16th Congress of APDIO, 3 to 5 June 2013, Polytechnic Institute of Bragança, Portugal
- 21st International Symposium on Mathematical Programming, 19 to 24 August 2012, Technical University of Berlin, Germany
- National Meeting of the Portuguese Mathematical Society 2012, 9 to 11 July 2012, University of Algarve, Portugal
- SC2011 International Conference on Scientific Computing, 10 to 14 October 2011, Cagliari, Italy
- Optimization 2011, 24 to 27 July 2011, Universidade Nova de Lisboa, Portugal
- Tenth SIAM Optimization Conference, 16 to 19 May 2011, Darmstadt, Germany
- 3rd Iberian Mathematical Meeting, 1 to 3 October 2010, University of Minho, Portugal
- EngOpt 2010, 2nd International Conference on Engineering Optimization, 6 to 9 September 2010, Technical University of Lisbon, Portugal
- 3rd Mathematical Programming Society International Conference on Continuous Optimization, 26 to 29 July 2010, University of Chile, Chile
- EURO XXIV 24th European Conference on Operational Research, 11 to 14 July 2010, University of Lisbon, Portugal
- 8th EUROPT Workshop on Advances in Continuous Optimization, 9 and 10 July 2010, University of Aveiro, Portugal
- IO2009, 14th Congress of APDIO, 7 to 9 September 2009, Universidade Nova de Lisboa, Portugal

- 20th International Symposium on Mathematical Programming, 23 to 28 August 2009, Chicago, USA
- Eighth World Congress on Structural and Multidisciplinary Optimization, 1 to 5 June 2009, LNEC, Portugal
- Workshop MAMOS Mathematics: Analysis, Modeling, Optimization and Simulation, 15 to 26 October 2007, Institute for Computational Engineering and Sciences at the University of Texas at Austin, USA
- 2nd Mathematical Programming Society International Conference on Continuous Optimization, 13 to 16 August 2007, McMaster University, Canada
- Optimization 2007, 22 to 25 July 2007, University of Porto, Portugal
- Workshop on Computational Mathematics, 1 and 2 February 2007, University of Coimbra, Portugal
- Iberian Conference in Optimization, 16 to 18 November 2006, Centro Internacional de Matemática, Portugal
- 19th International Symposium on Mathematical Programming, 30 July to 4 August 2006, Federal University of Rio de Janeiro, Brazil
- Industrial Workshop, 14 and 15 October 2005, University of Coimbra, Portugal
- Eighth SIAM Optimization Conference, 15 to 19 May 2005, Stockholm, Sweden
- Optimization 2004, 26 to 28 July 2004, University of Lisbon, Portugal
- IFORS 2002, 8 to 12 July 2002, University of Edinburgh, United Kingdom
- Second Workshop on Nonlinear Optimization: "Theoretical Aspects of Surrogate Optimization", 16 to 17 May 2002, University of Coimbra, Portugal
- Optimization 2001, 22 to 25 July 2001, University of Aveiro, Portugal
- IX Congress of APDIO, 16 to 19 April 2000, Polytechnic Institute of Setúbal, Portugal
- VIII Congress of APDIO, 29 November to 2 December 1998, University of Algarve, Portugal

Membership of Scientific Associations

- APDIO (Portuguese Association of Operations Research)
- SIAM (Society for Industrial and Applied Mathematics)
- SPM (Mathematical Portuguese Society)

MANAGEMENT

- Member of the Council of NOVA FCT, since October 2022
- Member of the Scientific Council of NOVA FCT, from April 2020 to October 2022
- Responsible for the validation of the data respecting to the scientific production of the Department of Mathematics of NOVA FCT in the platform CONVERIS, from September 2014 to December 2015
- Representative of non-doctorate teaching staff at the Council of the Department of Mathematics of NOVA FCT, from July 2000 to November 2002
- Pedagogical Counseling to Mathematics Course, at Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, in the years 2000/01 and 2001/02

EXTENSION

Positions

- Member of the Executive Board of the International Centre for Mathematics (CIM), from March 2020 to March 2024
- Faculty Advisor of the SIAM Student Chapter at Universidade Nova de Lisboa, from November 2013 to September 2016
- Member of the Executive Board of the Portuguese Association of Operations Research (APDIO), from January 2012 to January 2014

Committees

- Project evaluator of the contest FCT Challenge 2017, 2018, 2019, organized by NOVA FCT
- Jury member of the European BEST Engineering Competition (Case Study Category), Almada, February 2016

Edition of Publications

- Co-editor of the Bulletin of the Portuguese Association of Operations Research (APDIO), from February 2012 to January 2016

Projects

- A. L. Custódio and C. Brás, O que têm em comum estrelas, asas de avião e radioterapia?, MatNova 2021, Summer School Project in Mathematics for merit high school students, Portugal, September 2021
- A. L. Custódio and C. Brás, Uma Introdução à Optimização, Ciência Viva 2019, scientific course for high school students, Portugal, July 2019
- A. L. Custódio and M. C. Brás, Gestor Logístico (m/f) - Precisa-se, MatNova 2015, Summer School Project in Mathematics for merit high school students, Portugal, September 2015

Seminars

- A. L. Custódio, Como se calcula a idade de uma estrela?, MatNova 2024, Summer School in Mathematics for merit high school students, Portugal, September 2024
- A. L. Custódio, O que faz um Matemático?, EXPO-FCT 2024, EXPO-FCT 2023, and EXPO-FCT 2022, Portugal, April 2024, April 2023, and April 2022
- A. L. Custódio, O que significa ser Matemático?, MatNova 2019, Summer School in Mathematics for merit high school students, Portugal, September 2019
- A. L. Custódio, Ada Lovelace, Legado Matemático no Feminino, Portugal, May 2019, November 2020
- A. L. Custódio, O que significa ser Matemático?, EXPO-FCT 2019, Portugal, April 2019
- A. L. Custódio, Calculando a Idade das Estrelas: Uma breve introdução à Optimização, MathIngenious 2022, MathIngenious 2021, MathIngenious 2019, MathIngenious 2018, MathIngenious 2017, MathIngenious 2016, and MathIngenious 2015, Summer School in Mathematics for merit senior high school students, Portugal, July 2022, July 2021, July 2019, June 2018, July 2017, July 2016, and July 2015
- A. L. Custódio, E se, por absurdo, não houvesse Investigação Operacional (IO). . . , Nuc(M)- Nucleus of Mathematics of NOVA FCT, Portugal, April 2016
- A. L. Custódio, Optimização: Porque queremos fazer mais e melhor?, MatNova 2014, Summer School in Mathematics for merit high school students, Portugal, September 2014
- A. L. Custódio, Calculando a idade das estrelas. . . um problema de Optimização, EXPO-FCT 2015 and EXPO-FCT 2014, Portugal, April 2015 and April 2014
- A. L. Custódio, APDIO - Associação Portuguesa de Investigação Operacional, 3rd Journey of Mathematics of NOVA FCT, Portugal, March 2013
- A. L. Custódio, É possível fazer mais, melhor e em menos tempo? Vem descobrir a Investigação Operacional!, MatNova 2010, Summer School in Mathematics for merit high school students, Portugal, September 2010

Posters

- A. L. Custódio, Calculando a idade das estrelas... um problema de Optimização, MATER Exhibition, in the scope of Mathematics of Planet Earth 2013, October to December 2013, Universidade Nova de Lisboa

Video

- A. L. Custódio, Calculando a idade das estrelas... um problema de Optimização, EXPO-FCT 2021, virtual edition, April 2021

Scientific Revision

- Coordinator of the 10th grade group responsible for the revision of questions for the national contest in Mathematics, Pangea, from 2018 to 2021
- Scientific and technical revision of a manual for the 12th grade of Portuguese high schools

Organizing Committees of Events

- Member of the Organizing Committee of the Winter School in Mathematics for undergraduate students, Mathmasters 2019, 14 to 18 January 2019, Universidade Nova de Lisboa, Portugal
- Coordinator of the Organizing Committee of the Summer School in Mathematics for merit senior high school students, MathIngenious 2018, 27 to 29 June 2018, Universidade Nova de Lisboa, Portugal
- Coordinator of the Organizing Committee of the Summer School in Mathematics for merit senior high school students, MathIngenious 2017, 5 to 7 July 2017, Universidade Nova de Lisboa, Portugal
- Member of the Organizing Committee of the 7th Journey of Mathematics of NOVA FCT, 14 March 2017, Universidade Nova de Lisboa, Portugal
- Coordinator of the Organizing Committee of the Summer School in Mathematics for merit senior high school students, MathIngenious 2016, 6 to 8 July 2016, Universidade Nova de Lisboa, Portugal
- Member of the Organizing Committee of the 6th Journey of Mathematics of NOVA FCT, 18 March 2016, Universidade Nova de Lisboa, Portugal
- Coordinator of the Organizing Committee of the Summer School in Mathematics for merit senior high school students, MathIngenious 2015, 6 to 8 July 2015, Universidade Nova de Lisboa, Portugal
- Member of the Organizing Committee of the 3rd Journey of Mathematics of NOVA FCT, 8 March 2013, Universidade Nova de Lisboa, Portugal
- Member of the Organizing Committee of the Summer School in Mathematics for merit high school students, MatNova 2012, 4 to 8 September 2012, Universidade Nova de Lisboa, Portugal
- Member of the Organizing Committee of the Summer School in Mathematics for merit high school students, MatNova 2010, 8 to 11 September 2010, Universidade Nova de Lisboa, Portugal

OTHER ACTIVITIES

- Collaborator of ClubeMath (Mathematics Club of NOVA FCT) in 2011/2014 and 2018/19
- ExpoFCT, reception to high school students in 2006/13
- FCTChallenge, Faculdade de Ciências e Tecnologia of Universidade Nova de Lisboa program with high school students, September 2006
- Faculdade de Ciências e Tecnologia of Universidade Nova de Lisboa Open Day, reception to high school students in 2000/01, 2003/04, and 2004/05