

CURRICULUM VITAE

PERSONAL INFORMATION

Name	Ana Luísa da Graça Batista Custódio
Actual address	Dept. Mathematics, School of Sciences and Technology, New University of Lisbon, Quinta da Torre, 2829-516 Caparica, Portugal
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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	School of Sciences and Technology, New University of Lisbon
Adviser	Professor Luís Nunes Vicente
Dates (From – To)	1998 - 2001
Degree	Master in Operational 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	School of Sciences and Technology, New University of Lisbon

OTHER COURSES

Date	8 February 2008
Event	Considerations about theory and practice in Nonlinear Programming with special focus on a 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 New University of Lisbon

Date June 2002
 Event English First Certificate

PROFESSIONAL EXPERIENCE

Dates (From – To) October 1996 - today
 Institution Dept. Mathematics, School of Sciences and Technology, New University of Lisbon

Position Assistant Professor

Year	Fall Term	Spring Term
2007/09	Calculus 0 Calculus I D	Calculus II D

Lectured Courses

Regency Calculus II D, in 2008/09

Position**Teaching Assistant**

Lectured Courses

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 Introduction to Operations Research	Maternity Leave
2001/02	Calculus I	Calculus IV Operations Research A / Elements of Operations Research

Position**Stagier Teaching Assistant**

Lectured Courses

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**Monitor**

Lectured Courses

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

Resumed Syllabus

- Calculus 0: Revision of topics lectured in High School
- Calculus I/I D: 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 IV: Multiple Integration, Line and Surface Integration and Complex Analysis
- Calculus V: Measure Theory and Lebesgue's Integration
- Calculus VI: Complex Analysis
- Introduction to Operations Research: Linear Programming, Inventory Management, Project Management, Decision Theory and Simulation
- Operations Research A / Elements of Operations Research: Inventory Management, Forecasting, Nets, Project Management, Decision Theory and Simulation

Dates (From – To)

October 1996 - July 1997

Company name

Informatics Division of Quimigal Adubos, S.A.

Position

Trainee

Main Activity

Responsible for the planning, collection and data analysis of a survey directed to the active clients, aiming to evaluate their company satisfaction

AWARDS

School of Sciences and Technology, New University of Lisbon, for the best senior student in 1996/97

School of Sciences and Technology, New University of Lisbon, for the best senior student of Mathematics in 1996/97

FELLOWSHIPS

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

RESEARCH

RESEARCH CENTERS

Member of the Centre of Mathematics and Applications of New University of Lisbon (CMA), from January 2007

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

Member of the Centre of Mathematics and Applications of New University of Lisbon (CMA), from March 2001 to December 2004

FUNDING

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: **Computational Mathematical Finance** (PTDC/MAT/64838/2006)
PI: Professor Luís Nunes Vicente
Web Page: <http://www.mat.uc.pt/~lnv/cmf.html>

PUBLICATIONS

Papers

- 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

Other Publications

- A. L. Custódio, H. Rocha and L. N. Vicente, *Incorporating Minimum Frobenius Norm Models in Direct Search*, preprint 08-51, Dept. of Mathematics, Univ. Coimbra
- A. L. Custódio, *Aplicações de Derivadas Simpléticas em Métodos de Procura Directa*, PhD. Thesis, New University of Lisbon, Lisbon, 2007
- A. L. Custódio, *Um Sistema de Gestão Logística Integrando Gestão de Inventário e Construção de Rotas*, Master Thesis, IST, Lisbon, 2001

INVITED TALKS AT MINISYMPOSIA AND WORKSHOPS

- 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, 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

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 and L. N. Vicente, *Improving efficiency in direct search methods*, Département de Mathématique, FUNDP (Namur), Belgium, May 2007
- A. L. Custódio and L. N. Vicente, *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 and L. N. Vicente, *Using sampling and simplex derivatives in pattern search methods*, Applied Mathematics Colloquium, College of William & Mary, USA, June 2005

COMPUTATIONAL CODES

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 1.1
Web Page: <http://www.mat.uc.pt/sid-psm>

REFEREEING

- 4OR
- Journal of Mechanical Design
- Mathematical Methods of Operations Research (MMOR)
- Optimization and Engineering
- Optimization Methods and Software
- SIAM Journal on Optimization
- SIAM SIAG/Optimization Views-and-News

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
Institution	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

CONGRESSES, CONFERENCES AND WORKSHOPS

Organization

- Member of the Organizing Committee of the conference Calculus of Variations: From Engineering to Economy, 8 to 10 September 2008, Centro Internacional de Matemática, New University of Lisbon, 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

Participation

- 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, MacMaster 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)
- MPS (Mathematical Programming Society)
- SIAM (Society for Industrial and Applied Mathematics)
- SPM (Mathematical Portuguese Society)

OTHER ACTIVITIES

- ExpoFCT, reception to high school students in 2006/09
- FCTChallenge, School of Sciences and Technology of New University of Lisbon program with high school students, September 2006
- School of Sciences and Technology of New University of Lisbon Open Day, reception to high school students in 2000/01, 2003/04 and 2004/05
- Representative of non-doctorate teaching staff at Mathematical Department Council, at School of Sciences and Technology of New University of Lisbon, July 2000 - November 2002
- Pedagogical Counseling to Mathematics Course, at School of Sciences and Technology, New University of Lisbon, in the years 2000/01 and 2001/02