CMAF-CIO 2015
Complementary information

Nonlinear PDE and Applications

Research Project

MATH2DISLOC FCT research project (2014-2019), 50.000 euro.
P.I.: N. Van Goethem.

Communications in seminars or international conferences

1. S. N. Antontsev and H. B. Oliveira, Generalized anisotropic Navier-Stokes equations,The XIth All-Russian Congress on Basic Problems of Theoretical and Applied Mechanics, Kazan, 20 - 24 August 2015. Proceedings, pp 19-20.

2. J.P.Dias, Coupled nonlinear Schrödinger equations with a gauge potential, Workshop "Calculus of Variations and its Applications", Univ. Nova de Lisboa, Caparica, 17-19 December 2015.
http://eventos.fct.unl.pt/cvamascar/pages/presentations

3. N.Van Goethem, Topology optimization and Image classification with gradient-free perimeter approximation, Seminar of CIDMA, University of Aveiro (Portugal), March 17th, 2015.

4. C. Barbarosie, Teoria da homogeneização e tratamento numérico de EDPs em domínios peródicos, Seminário de Análise e Equações Diferenciais, CMAF-CIO, Lisboa, 15 de Outubro de 2015.
http://cmafcio.campus.ciencias.ulisboa.pt/node/17

5. C. Barbarosie, Smoothness of eigenvalues and eigenvectors of a matrix depending on parameters, International workshop on Calculus of variations and its applications, Universidade Nova de Lisboa, Caparica,17-19 December, 2015
http://eventos.fct.unl.pt/cvamascar/pages/presentations

6. A.M. Toader, Identification of material and shape based on eigenvalues and traces of eigenmodes, Sixth International Conference on Mechanics and Materials in Design, Ponta Delgada, 26-30 July 2015
https://paginas.fe.up.pt/clme/m2d2015/M2D2015_Program.pdf.

7. J.F. Rodrigues, On the Free Boundary in Heterogeneous Problems of Obstacle-Type with Two Phases, Partial Differential Equations in Valencia, 2015; 21/10/2015 – 23/10/2015
http://edpnol.blogs.uv.es/main-speakers/

8. J.F. Rodrigues, Solutions for linear conservation laws with gradient constraint;

Seminar at the Instituto de Matemática da Universidade Federal do Rio de Janeiro; Brasil, 26-8-2015

Theses supervised (Ph.D., Master)

1. Simão Correia: "Dynamics for nonlinear Schrödinger and Ginzburg-Landau equations and systems", Mário Figueira.

2. Ana Paiva: "Análise de equações do tipo RANS", Ph.D. thesis, in progress, supervisor: H. B. de Oliveira.

Articles submitted to publication:

1. S. Correia, "Characterization of ground-states for a system of M coupled semi linear Schrödinger equations and applications", Journal of Differential Equations 260, 3302-3326 (2016).
http://www.sciencedirect.com/science/article/pii/S0022039615005756.

2. S. Correia, "Stability of ground-states for a system of M coupled semi linear Schrödinger equations", NoDEA 23:26 (2016).
http://link.springer.com/article/10.1007/s00030-016-0379-9.

3. S. Correia, "Ground-states for systems of M coupled semi linear Schrödinger equations with attraction-repulsion effects: characterization and perturbation results", Nonlinear Analysis: Theory, Methods & Appl. 140, 112-129 (2016).
http://www.sciencedirect.com/science/article/pii/S0362546X16000791.

4. S. Correia, F. Oliveira, H. Tavares, "Semitrivial vs. fully nontrivial ground states in cooperative cubic Schrodinger systems with d ≥ 3 equations", Journal of Functional Analysis 271, 2247-2273 (2016).
http://www.sciencedirect.com/science/article/pii/S0022123616301549.

5. N. Van Goethem, The Frank tensor as a boundary condition in intrinsic linearized elasticity, Journal of Geometric Mechanics, to appear.

6. N. Van Goethem and R. Scala, Constraint reaction and the Peach-Koehler force for dislocation networks, Mathematics and Mechanics of Complex Systems, to appear.

7. N. Van Goethem, Dislocation-induced linear-elastic strain dynamics by Cahn-Hilliard-type equations, Mathematics and Mechanics of Complex Systems, to appear.

8. N. Van Goethem, Incompatibility-governed singularities in linear elasticity with dislocations, Mathematics and Mechanics of Solids, to appear.

9. N. Van Goethem, Direct expression of incompatibility in curvilinear systems, The ANZIAM Journal, to appear.

10. N. Van Goethem and R. Scala, Currents and dislocations and the continuum scale, Methods and Applications of Analysis, to appear.

11. N. Van Goethem and S. Amstutz, Analysis of the incompatibility operator and application in intrinsic elasticity with dislocation, SIAM Journal of Math Analysis, to appear.

12. S. N. Antontsev and H. B. de Oliveira, Evolution problems of Navier–Stokes type with anisotropic diffusion.
Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales. Serie A, Matemáticas, 110 (2016), 729-754.
http://link.springer.com/article/10.1007/s13398-015-0262-2.

13. J.P.Dias, M.Figueira and F.Oliveira. Existence and linearized stability of solitary waves for a quasilinear Benney system.
Proc. Royal Soc. of Edinburgh, Section A, 146 (2016), 547-564.
http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=10350110&fileId=S0308210515000578.

14. J.P.Dias, M.Figueira and V. Konotop. The Cauchy problem for a coupled nonlinear Schrödinger equations with linear damping: Local and global existence and blowup of solutions. Chin. Ann. Math. B, 37 (2016), 665-682. http://link.springer.com/article/10.1007/s11401-016-1006-0.

15. J.P.Dias, M.Figueira and V. Konotop. Coupled nonlinear Schrödinger equations with a gauge potential: existence and blowup. Studies in Appl. Math., 136 (2016), 241-262 http://onlinelibrary.wiley.com/doi/10.1111/sapm.12102/abstract.

16. J.P.Dias and F.Oliveira. On a quasilinear non-local Benney system, J. Hyperbolic Diff. Eq., to appear.

17. C.Sarrico and A.Paiva. New distributional travelling waves for the nonlinear Klein-Gordon equation, Diff. and Integral Eq, to appear.

Book chapters to appear

1. A.M. Toader and C. Barbarosie, Optimization of Eigenvalues and Eigenmodes by using the Adjoint Method, Topological Optimization and Optimal Transport In the Applied Sciences, Radon Series on Computational and Applied Mathematics,vol.17 ,M.Bergounioux, É.Oudet, M.Rumpf , G.Carlier,T.Champion (Editors), Walter De Gruyter Inc , to appear. http://www.degruyter.com/view/product/458561

2. H. B. de Oliveira and A. Paiva. On a One-Equation Turbulent Model with Feedbacks. Springer Proceedings in Mathematics & Statistics 164, pp 51--61.
 http://link.springer.com/chapter/10.1007/978-3-319-32857-7_5

<div align="center">**Operations Research**</div>

Research Projects

Liliana Ferreira: Participação no projeto de investigação " Models and Decision Support Systems for Adressing Risk and Uncertainty in Forest Planning (SADRI)" - PTDC/AGR-FOR/4526/2012, financiado pela Fundação para a Ciência e Tecnologia, com o montante total de 154505€. Início em julho de 2013 e duração de 27 meses (coordenador: Jordi Garcia-Gonzalo, do Instituto Superior de Agronomia).

Pedro Castro: PTDC/EQU-ESI/118253/2010. OptEnergy: Optimal Scheduling of Industrial Plants subject to Energy Constraints. Fundação para a Ciência e Tecnologia, €74,040. Inicio: Abril 2012; Fim: Setembro 2015.

Pedro Martins Member no Red Iberoamericana de Logística Inteligente en la Gestión Sostenible del Transporte en Núcleos Urbanos, 2015-2018, Programa Iberoamericano de Ciencia y Tecnologia para el Desarrollo (CYTED), Spain, Red 515RT0489 (PI: Francisco Javier Faulin Fajardo).

Francisco Saldanha da Gama
Research Project (main researcher):
Projecto de cooperação transnacional Portugal-Alemanha financiado pela FCT:
Title: Embedding Risk in Supply Chain Network Design Problems. Dates: 2015 e 2016 - Funding: 4000 Euros

Luis Gouveia
Modeling Routing and Rostering with Network Flows - PTDC/MATNAN/2196/2014
RORNET Funding: 199.598,00€ - dates 01.01.2016 to 31.12.2018

Conference/seminars presentations
International

Luis Gouveia "Network flow precedence based formulations for the asymmetric traveling salesman problem" Optimization Days, 2-4 May, Montréal.

Luis Gouveia, "Design of survivable networks with length constraints" INOC 2015, Maio 18-20 Varsóvia, Polónia.

Pedro M. Castro, Bruno Custódio and Henrique A. Matos. A Continuous-time MILP Model for Direct Heat Integration in Batch Plants. PSE2015 e ESCAPE-25, Copenhagen, Denmark. 31, Maio a 4 Junho 2015.

P. Castro, B. Custódio, H. Matos. A Generalized Disjunctive Programming Model for Simultaneous Scheduling and Heat Integration of a Vegetable Oil Refinery. AIChE 2015 Annual Meeting, Salt Lake City, UT, USA. 8 a 13 Novembro 2015.

P. Castro. A More Efficient Formulation for the Multiperiod Blending Problem. AIChE 2015 Annual Meeting, Salt Lake City, UT, USA. 8 a 13 Novembro 2015.

P. Castro. Closing the Gap Between Multiparametric Disaggregation and Piecewise McCormick Relaxations for MIQCPs. AIChE 2015 Annual Meeting, Salt Lake City, UT, USA. 8 a 13 Novembro 2015.

P. Castro, I. Marques. An Efficient Decomposition Approach for Operating Room Scheduling. ORAHS 2015, Montreal, Canada. 19 a 24 de Julho 2015.

P. Castro. A new MILP relaxation for MIQCPs. 17th British-French-German Conference on Optimization, London, UK. 15 a 17 de Junho 2015.

Mesquita, M., M. Moz, A. Paias, M. Pato. "A decompose-and-fix heuristic for driver rostering" 4th Meeting of the EURO Working Group on Vehicle Routing and Logistic Optimization – Verolog 2015, Universidade de Viena, Viena, Áustria, Junho de 2015

Inês Marques "A surgical case assignment problem in a block scheduling strategy" INFORMS Healthcare Conference, Nashville, EUA, 29-31 de Julho.

Inês Marques A surgical case assignment problem in a block scheduling strategy. ORAHS 2015, 41st Annual Conference on Operational Research Applied to Health Services, Montreal, Canadá, de 19 a 24 de Julho.

Inês Marques A surgical case assignment problem in a block scheduling strategy. EURO XXVII 2015, 27th European Conference on Operational Research, Glasgow, Escócia, de 12 a 15 de Julho.

Inês Marques Scheduling elective surgeries in a block scheduling strategy. EURO Mini Conference Improving healthcare: new challenges, new approaches, Coimbra, de 30 de Março a 1 de Abril.

Francisco Saldanha da Gama "A multi-stage stochastic supply network design problem with financial decisions and risk management: modeling aspects and an exact algorithm" Université Libre de Bruxelles, Belgium April 21, 2015.

Francisco Saldanha da Gama "Multi-period hub network design problems with modular capacities" EWGLA XXII, 22nd Meeting of the EURO Working Group in Locational Analysis, Budapest, Hungary 20-22 May, 2015.

Francisco Saldanha da Gama "A multi-period stochastic hub location problem: formulation and valid inequalities" EURO XXVII, 27th European Conference in Operational Research, Glasgow, Scotland, UK 12-15 July, 2015.

Francisco Saldanha da Gama "Heuristic approaches for the facility location problem with Bernoulli demands" CORAL 2015, V Combinatorial Optimization, Routing and Location Meeting, Salamanca, Spain September 30 - October 2, 2015.

Angelo Aliano Filho, Antônio Moretti and Margarida Vaz Pato, "Several Approaches for Solving the Multiobjective One-Dimensional Cutting-Stock Problem", ISMP 2015 – 22nd International Symposium on Mathematical Programming, Pittsburgh, USA, July 2015;

Helenice de Oliveira Florentino, Daniela Renata Cantane, Fernando L. P. Santos, Celia Aparecida dos Reis, Margarida Vaz Pato, Dylan Jones, M. Cerasuolo and Rogério Antônio Oliveira, "Application of a Genetic Algorithm for Optimized Chemical and Biological Dengue Control", EURO Mini Conference on Improving Healthcare: new challenges, new approaches, Faculdade de Economia da Universidade de Coimbra, March-April 2015.

Vinicius Canale, Helenice de Oliveira Florentino and Margarida Vaz Pato, "Metaheurísticas no auxílio do controlo do mosquito transmissor da dengue", IX Congresso Latinoamericano de Biomatemática, UNESP, Botucatu, Brazil, July 2015;

Angelo Aliano Filho, Antônio Moretti and Margarida Vaz Pato, "Aplicação do algoritmo Ɛ-Restrito com uma heurística de arredondamento no Problema de Corte Unidimensional Inteiro Multiobjetivo", XLVII SBPO – Simpósio Brasileiro de Pesquisa Operacional, Brazil, August 2015;

Daniela Cantane, Helenice de Oliveira Florentino, Fernando L.P. Santos, Célia Reis, Margarida Vaz Pato, Dylan Jones, Rogerio Antonio de Oliveira, Marianna Cerasuolo and Luiz Lyra, "Optimization Model Applied to Chemical, Biological and Physical Dengue Control", EURO XXVII – European Congress on Operational Research, invited talk, stream Optimization in Bioinformatics, Computational Biology, Bioinformatics and Medicine, Glasgow, UK, July 2015;

National:

Sofia Alves, Lígia Amado, Cândida Mourão, Margarida Moz "Planeamento da recolha dos resíduos de papeleiras numa área urbana " IO 2015–17º Congresso da APDIO, Instituto Politécnico de Portalegre, Portugal, Setembro 2015

Maria João Lopes, "Multiple Passive Optical Network (PON) network design with unconstrained splitting stages", em co-autoria com Luís Gouveia e Amarao de Sousa, apresentada na Conferência IO2015 – XVII Congresso da APDIO, realizada em Portalegre, Portugal, de 7 a 9 de Setembro de 2015.

P.A.N. Dias, M.S. Reis, P. Martins e A. Salvador, Identifying strong statistical bias in the local structure of metabolic networks: The metabolic network of Saccaromyces cerevisiae as a test case. In: 6th International Conference on Bioinformatics Models, Methods and Algorithms, BIOINFORMATICS 2015: 2015; Lisbon, Portugal; 2015: 207-212.

M. Constantino, L. Gouveia, M.C. Mourão, A.C. Nunes. Problemas de rotas nos arcos: minimização da sobreposição de zonas de serviço. Em: IO 2015 – XVII Conferência da APDIO, Portalegre, Portugal, 7-9 de Setembro de 2015 http://www.io2015.ipportalegre.pt/

A.C. Nunes, M. Constantino, M.J. Cortinhal, L. Gouveia, M.C. Mourão "Identificação de setores e rotas de serviço para problemas reais" Em: Seminário organizado pelo Centro de Matemática e Aplicações da Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Caparica, Portugal, 9 de Dezembro de 2015.

A.C. Nunes, M. Constantino, M.J. Cortinhal, L. Gouveia, M.C. Mourão "The design of service zones and routes for real life problems" Em: 2.º Encontro do Centro de Investigação Operacional, organizado pelo Centro de Investigação Operacional da Universidade de Lisboa, Lisboa, Portugal, 28 de Março de 2015.

Inês Marques "Operating room planning and scheduling: real cases in the Portuguese context. Encontros de Investigação Operacional, Centro de Investigação Operacional, Faculdade de Ciências, Universidade de Lisboa, 28 de Março, 2015

Um problema de afectação de casos cirúrgicos electivos. IO2015, 17º Congresso da APDIO – Associação Portuguesa de Investigação Operacional, Portalegre, 7-9 de Setembro.

A. Paias, M. Mesquita, A. Murta, L. Wise, "Planeamento de Rotas na Amostragem de Espécies Marinhas", SeminárIO - Seminários em Investigação Operacional, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Dezembro de 2015;

João Miranda, Ana Paula Teixeira and Margarida Vaz Pato, "European Study in OR/MS Education", IO 2015 – 17º Congresso da APDIO, Portalegre, September 2015;

Margarida Vaz Pato, Maria da Conceição Fonseca and Carlos Lúcio Martins, "Modelling the steering of international roaming traffic problem", IO 2015 – 17º Congresso da APDIO, Portalegre, September 2015;

Angelo Aliano Filho, Antônio Moretti and Margarida Vaz Pato, "Aplicação do algoritmo Ɛ-Restrito com uma heurística de arredondamento no Problema de Corte Unidimensional Inteiro Multiobjetivo", XLVII SBPO – Simpósio Brasileiro de Pesquisa Operacional, Brazil, August 2015;

Marta Mesquita, Margarida Moz, Ana Paias and Margarida Vaz Pato, "Driver rostering problems with days-off patterns", 2º Encontro do Centro de Investigação Operacional, ULisboa, March 2015.

Master Thesis

Daniel Rebelo dos Santos
A study of flow-based models for the electric vehicle routing problem

Mestrado em Estatística e Investigação Operacional, Faculdade de Ciências da Universidade de Lisboa, 27 Julho 2015, Orientada por Luis Gouveia

Mário João Dias Carvalho
"Caracterização de uma fila de espera de um serviço hospitalar: um caso de estudo"
Mestrado de Gestão de Sistemas de Informação Médica, da Escola Superior de Tecnologia e Gestão do Instituto Politécnico de Leiria, defendida a 16 de julho de 2015
Co-orientadora: Liliana Ferreira

Sofia da Silva Alves
"Planeamento da recolha dos resíduos de papeleiras numa área urbana"
MSc in Decisão Económica e Empresarial, Instituto Superior de Economia e Gestão, Universidade de Lisboa, Dezembro 2015 Supervised by Margarida Moz with Lígia Amado.

Frederico da Cruz Pereira Pinto
"Transporte aéreo de produtos acorianos de valor acrescentado para Portugal Continental", Mestrado em Gestão do ISCTE-IUL Orientada por Maria João Cortinhal

António José Oliveira Paixão
"Reposicionamento do Pingo Doce: análise do impacto das promoções no posicionamento percecionado", Mestrado em Gestão do ISCTE-IUL
Orientada por Maria João Cortinhal

André João Esteves. Improvement of forecasting and sales barganing power: the case of Altri. MSc in Business Administration, ISCTE-Instituto Universitário de Lisboa, Dezembro de 2015. Orientado por Ana Catarina Nunes (co-orientação com Ana Lúcia Martins, ISCTE-IUL) https://repositorio.iscte-iul.pt/handle/10071/11852

Daniel Cardoso Semedeiros Bartolomeu
"Optimização do planeamento das inspecções de aeronaves na TAP Manutenção e Engenharia", Curso de Mestrado em Estatística e Investigação Operacional, Faculdade de Ciências da Universidade de Lisboa. Em curso. Orientada por Inês Marques

Nara Marques Barros
"Optimizing the master surgery schedule in a private hospital", Curso de Mestrado em Estatística e Investigação Operacional, Faculdade de Ciências da Universidade de Lisboa. Em curso. Orientada por Inês Marques

Eliana Fabíola Correia Fernandes
"A heuristic approach for capacitated single allocation hub location problems"
October 2015. Orientada por Francisco Saldanha da Gama

Raquel Monteiro de Nobre Costa Bernardino

"Meta-Heurísticas para o problema do traveling purchaser"
Mestrado em Estatística e Investigação Operacional, Faculdade de Ciências da Universidade de Lisboa, 31 de Julho de 2015, Orientada por Ana Paias

Mafalda Patrícia Carvalho Anjos
Dimensionamento e expansão da RNCCI na zona do Alentejo. Aplicação de um modelo de programação linear inteira", to finhish in 2016; Orientada por Margarida Vaz Pato

Mafalda Mendes da Silva
Atividade Operacional do Banco Alimentar de Lisboa: Estudo Estatístico e Otimização de Rotas na Campanha Saco", Mafalda Mendes da Silva, December 2015; Orientada por Margarida Vaz Pato

Rita de Sousa Botinas Duarte Madeira
"Otimização do Processo de Vendas. Estudo de Caso no Clube INTERPASS", January 2015. Orientada por Margarida Vaz Pato

Daniel Neves
"Management information system for analysing the covering of health care facilities network" Polytechnic Institute of Coimbra - ISCAC, October 2014 – December 2015. Orientador: Pedro Martins

Artur Figueiredo
"Scheduling optimization on an Activities' Maintenance Management Control System" Artur Figueiredo, Polytechnic Institute of Coimbra - ISCAC, October 2014 – December 2015. Orientador: Pedro Martins

Phd Thesis

Teresa de Jesus Resende Silva dos Santos Neto
Models and heuristics for forest management with environmental restrictions
Orientada por Isabel Martins (em curso)

Carlos José Lúcio Martins
"Holistic modelling of a Sustainable Supply Chain", Matemática Aplicada à Economia e à Gestão, ISEG: to finish in 2017. Supervised by Margarida Vaz Pato (in progresso)

Other

External researcher Francisco Saldanha da Gama:
Thematic Network: Location and Related Problems (MTM2014-53828-REDT). Ministry of Economy and y Competitiveness. 2014–2016. Responsible Researcher: Antonio Manuel Rodríguez-Chía.

External researcher Francisco Saldanha da Gama:
Project "OPTIMOS3: Modelos y métodos de Programación Matemática y sus aplicaciones". (Mathematical Programming models and methods and their

applications). Team grant from Spanish Ministerio de Educación y Ciencia. 1/2012–12/2015 (MTM2012-36163-C06-05). Main Researcher: Elena Fernández.

Editorial work Francisco Saldanha da Gama: Area Editor, Computers & Operations Research.

Francisco Saldanha da Gama Member of the Scientific Committee:
Conference: EWGLA XXII, 22nd Meeting of the EURO Working Group on Locational Analysis, Budapest, Hungary, 20-22 May, 2015.

Operations Research for Health Care, volume 7, (2015)
Editorial coordination M. Eugénia Captivo, Inês Marques and Margarida Moz.

IO 2015–17º Congresso da APDIO, Instituto Politécnico de Portalegre, Portugal, Setembro 2015 Members of the Program Committee: Cândida Mourão, Margarida Moz, Margarida Pato
Curso de Especialização "Análise de dados Geográficos com R" (coordenação Marta Mesquita), com a duração de 30 horas, que decorreu no
1) Instituto Superior de Agronomia, de 02/02/2015 a 13/02/2015.
http://www.isa.utl.pt/home/node/5272
2) Instituto de Financiamento da Agricultura e Pescas – IFAP I.P., de 15/06/2015 a 26/06/2015

NetOpt 2015, 4th Winter School on Network Optimization http://netopt2015.fc.ul.pt/
Chair: Luis Gouveia
Comissão organizadora: Maria Conceição Fonseca, Rodrigo Marques,Pedro Moura, Ana Paias

Mini EURO Conference on Improving Healthcare: new challenges, new approaches, Coimbra, March-April 2015. Margarida Vaz Pato; program committee

ICCL 2016, organized by: Ana Paias, Luis Gouveia, Raquel Bernardino, Rodrigo Marques

Encontros de IO, Faculdade de Ciências da Universidade de Lisboa, March 2015

GEOMETRY

Other publications

Áurea Quintino: invited contributor in Willmore energy and the Willmore Conjecture (invited contributor), CRC Press, Taylor and Francis Ltd. (to appear, 2017).

Conferences and courses organized

Teresa Monteiro Fernandes organized a short course by Luca Prelli – FCUL, March-April

2015 and co-organized the conference D-Modules and singularities, Padova, September 2015 http://docenti.math.unipd.it/dagnolo/Padova2015/

António Araújo organized the mathematics seminars at Universidade Aberta and gave two talks:

"Anamorfose e Cor na Geometria e na Arte", Escola de Verão da SPM, 2-5 September 2015

"Máscaras feitas de luz: a geometria e a arte da anamorfose", a cycle of light conversations, Museu Nacional de História Natural, 16 December 2015.

Differential Equations and Dynamical Systems

Other publications
Book

Pedro Duarte, Silvius Klein, Lyapunov Exponents of Linear Cocycles: Continuity via Large Deviations. (Monograph) - Atlantis Series in Dynamical Systems, ISBN 978-94-6239-124-6.

Book Chapters
Cristina Serpa, Jorge Buescu, Piecewise Expanding Maps and Conjugacy Equations, Nonlinear maps and their applications, Springer Proc. Math. Stat., 112, Springer, New York (2015), Chapter 11, pp. 193-202. DOI: 10.1007/978-3-319-12328-8
ISBN: 978-3-319-12327-1, URL: http://www.springer.com/la/book/9783319123271

Articles in Proceedings

Cristina Serpa, Jorge Buescu, Bold play and timid play with multiple payoffs - Proceedings of the Recreational Mathematics Colloquium IV, Gathering for Gardner Europe, Ludus (2016). ISBN: 978-989-99506-0-3
https://www.amazon.com/Recreational-Mathematics-Colloquium-Iv
Gathering/dp/9899950602

Communications in seminars and international conferences

Pedro Duarte: Continuity of Lyapunov Exponents, Seminário de Sistemas Dinâmicos, FCUP, Porto, 16 de Janeiro, 2015
--Problemas Dinâmicos, Oficina Diagonal, Programa Novos Talentos Gulbenkian, ISEG-Lisboa, 21 de Fevereiro 2015
--Large deviation estimates for mixing Markov cocycles, NTNU, Trondheim Science and Technical University, 16 de Março, 2015
--Large deviation estimates for Markovian cocycles, International Joint meeting AMS-EMS-SPM, FCUP Porto, 11 de Junho 2015

--Dissipative Polygonal Billiards, NTNU, Trondheim Science and Technical University, 7 de Setembro, 2015
--On the continuity of the Lyapunov exponents, Institut Galilée, Université de Paris 13, 14 de Outubro   2015

T. Faria: Persistence, permanence and stability for a multi-dimensional Nicholson's blowflies model, 6th Workshop Dynamical Systems Applied to Biology and Natural Sciences DSABNS 2015, Lisbon, February 04-06, 2015 (plenary talk).
-Permanence of nonautonomous cooperative population models with delays}, Short Thematic Program on Delay Differential Equations - sub-theme "Structured Delay Systems", Fields Institute, Toronto, May 19--22, 2015 (invited participant and speaker).
-Persistence and permanence for a class of nonautonomous delay differential equations, Nonautonomous Dynamics and Applications, Universidad de Valladolid, November 25--27, 2015 (invited participant and speaker).

A Margheri, Alguns resultados analíticos sobre o problema restringido dos três corpos com dissipação e sobre a equação de Kepler com dissipação linear, FCUP,   27 Fevereiro, 2015

C. Rebelo, Persistence in seasonally forced epidemiological models, AMS - EMS - SPM International Meeting 2015 (Porto, 10 - 13 de Junho de 2015)

Luís Sanchez, Travelling waves and critical speed in the presence of nonlinear diffusion, ICDDEA 2015, Academia Militar, Amadora, May 2015.

Conferences and courses organized

6th One Day Meeting on Dynamical Systems, 19 de Janeiro, 2015
http://cemapre.iseg.ulisboa.pt/lxds/events/

Theses supervised (Ph.D, Master)

Alexandre Simões: Bouncing solutions in a generalized Kepler problema (master thesis, in progress), supervised by Carlota Rebelo.

Telmo Lucas Peixe: Lotka-Volterra Systems and Polymatrix Replicators, Ph.D. thesis, FCUL, passed November 2015, supervised by Pedro Duarte.

Maria Cristina Gonçalves Silveira de Serpa : Systems of Iterative Functional Equations: Theory and Applications, Ph.D. thesis, FCUL, passed in December 2015, supervised by Jorge Buescu.

Articles to appear

Cristina Serpa, Jorge Buescu, Constructive solutions for systems of iterative functional equations, Constr. Approx., in press.

DOI: 10.1007/s00365-016-9349-z
URL: http://link.springer.com/article/10.1007/s00365-016-9349-z

A. Margheri, C. Rebelo and M.G.M. Gomes, Heterogeneity in disease risk induces falling vaccine protection with rising disease incidence}, Dynamical Systems, DOI:10.1080/14689367.2016.1187115,
http://www.tandfonline.com/doi/full/10.1080/14689367.2016.1187115

Margheri, R. Ortega and C. Rebelo, First integrals for the Kepler problem with linear drag, Celestial Mechanics and Dynamical Astronomy, (), 1-14 DOI: 10.1007/s10569-016-9715-yhttp://link.springer.com/article/10.1007/s10569-016-9715-y

G. Del Magno, J. L. Dias, P. Duarte, J. P. Gaivão, D. Pinheiro, Polygonal Billiards with a Contractive Reflection Law: A Review of Some Hyperbolic Properties - Chapter in Lluís Alsedà i Soler et al: Difference Equations, Discrete Dynamical Systems and Applications, 978-3-662-52926-3, 369414_1_En (14)

G. Del Magno, J. L. Dias, P. Duarte, J. P. Gaivão, Hyperbolic polygonal billiards with finitely many ergodic SRB measures, Ergodic Theory and Dynamical Systems
Andrea Gavioli and Luís Sanchez, Positive homoclinic solutions to some Schrödinger type equations, Differential and Integral Equations 29 (2016), 665-682.

STOCHASTIC ANALYSIS, MATHEMATICAL PHYSICS AND APPLICATIONS

Research projects

PTDC/MAT-STA/1284/2012 - Scaling properties for chain polymers modeled
by fractional Brownian motion paths.
(Project FCT, June 11 2013 to June 11 2015, funding:48.000 euros). (coord: M. J. Oliveira; M. C. Carvalho, R. Vilela Mendes and L. Streit)

SEMINARS and INVITED LECTURES at CONFERENCES

The members off the group gave invited lectures at the following international conferences and universities:

M. C. Carvalho, A Boltzmann Modell for Rod Alignment and Schooling of Fish, Kinetic and Related Equations, organized by Banff International Research Station at Casa de Matematica, Oaxaca, Mexico, July 5 to 10, 2015

M. C. Carvalho, A Boltzamnn model for schooling of fish, Infinite Dimensional Analysis and Applications, University of Madeira, Funchal, Portugal, July 27 to 31, 2015.

M. C. Carvalho, A Quantum Kac Walk and its Kinetic Limit, Part I, Quantum Markov Semigroups in Analysis, Physics and Probability, organized by Banff International Research Station at Casa de Matematica, Oaxaca, August 23 to 28, 2015

M. C. Carvalho, A Boltzamnn model for schooling of fish, Nonlocal-Nonlinear Partial Differential Equations and Applications, Anacapri, itly, September 14 to 18, 2015.

M. J. Oliveira, Varadhan's Construction Revisited, Madeira Math Encounters XLIII, Diálogo Luso-Alemão: Infinite Dimensional Analysis,University of Madeira, Funchal, July 27 to August 1st 2015

M. J. Oliveira, Dynamical Widom-Rowlinson model and its mesoscopic limit. International Conference ``Probability, Reliability and Stochastic Optimization'' (plenary session), Taras Shevchenko National University of Kiev, Kiev, Ukrain, April 7 to 10, 2015

B. Simões, A note on the spectral deformation of harmonic maps from the two spheres into the unitary group, seminar at Univerisdade da Beira Interior, July 2015

R. Vilela Mendes, An extended Dirac equation in non commutative spacetime, Madeira Math Encounters XLIII, Diálogo Luso-Alemão: Infinite Dimensional Analysis, University of Madeira, Funchal, July 27 to August 1st 2015.

M. C. Carvalho spent 3 months at the Dep of Mathematics of Rutgers University in the Spring of 2015, financed by a sabatical fellowship from Fundacao para a Ciencia e Tecnologia, to continue her research work with E. Carlen, M. Loss and J. Lebowitz. She also visited the Institute for Science and Tecnology in Vienna and the University of Rome Tor Vergata during the Spring and Fall of 2015 where she continued her work with R Marra and R Esposito. These visits were partially supported by these institutions.

M. J. Ferreira visited the University of Manaus for two weeks in February 2015 to continue her work with R. Tribuzy and to be member of committee for the Phd thesis of João Ponciano "Imersões Isométricas em Grupos de Lie com Aplicação de Gauss prescrita". This visit was partially supported by the University of Manaus.

R. V. Mendes spent several weeks in the Fall of 2015 at Univ Autonoma de Madrid working with J. Aguirre and his collaborators, partially supported by Univ. Autonoma.

Organization of Conferences

Particle Systems and PDE's IV, University of Minho, Braga, December 16 to 18, 2015. This conference was organized by M. C. Carvalho with A. Arnold (Technical University of Vienna), P. Gonçalves (University of Minho), A. J. Soares (University of Minho), and Alexis Vasseur (University of Texas at Austin). It was also a Co-Lab initiative UT Austin-Portugal.

Mathematical Logic

Research projects

Prelli, L.: MODALAN14, from July 1st 2015, 50000 euros.

Communications in seminars and international conferences

Ferreira, F. "Nonstandardness and the bounded functional interpretation," Utrecht Workshop on Proof Theory, University of Utrecht, Utrecht, Holland, 16/4/2015.

Ferreira, F. "The mathematics and metamathematics of weak analysis," Schloss Dagstuhl (Leibniz-Zentrum für Informatik), Dagstuhl, Germany, 21/9/2015.

Ferreira, F. "Extensions and Fregean arithmetic," Ontological Commitment in Mathematics, in memoriam Aldo Antonelli, Institut d'Histoire et de Philosophie des Sciences et des Techniques, Paris, France, 14/12/2015.

Ferreira, G. "Atomic polymorphism: an overview," Logic Colloquium 2015, Helsinki, Finland, 3/8/2015.

Ferreira, F. "Categoricity proofs and mathematical knowledge," LanCog Seminar, Faculdade de Letras da Universidade de Lisboa, 26/2/2015.

Ferreira, G. "Atomic polymorphism: an overview," SLC-Seminário de Lógica e Computação, Instituto Superior Técnico, Universidade de Lisboa, 10/7/2015.

Conferences and courses organized

Luca Prelli: D-modules and singularities (Università di Padova), 14-16/9/2015,http://docenti.math.unipd.it/dagnolo/Padova2015/

Luca Prelli: Iberian Meeting on Algebraic Analysis (FCUL), 8-10/6/2016, http://imaa.fc.ul.pt/

Luca Prelli: Workshop on Formal and Analytic Solutions of Partial Differential Equations (FCUL), 31/8-2/9/2016,http://faspde16.wordpress.com/

Theses supervised

Ferreira, F. doctoral thesis of João Enes, in progress.

Ferreira, F. doctoral thesis of Pedro Pinto, in progress.

"A lógica e o raciocínio lógico no ensino secundário," Margarida Carvalho, doctoral thesis. Co-supervised by G. Ferreira, in progress.

Articles to appear

-in journals:
Dinis, B. and Ferreira, G. "Instantiation overflow," Reports on Mathematical Logic 51, pp. 15-33, 2016.
http://www.ejournals.eu/rml/2016/Number-51/art/7675/

Edmundo, M., Mamino, M. and Prelli, L. "On definably proper maps," Fundamenta Mathematicae, Vol. 233 N. 1 pp. 1-36, 2016.
DOI: http://dx.doi.org/10.4064/fm96-12-2015

Ferreira, F. and Ferreira, G. "An elementary proof of strong normalization for atomic F," Bulletin of the Section of Logic, to appear.

G. Ferreira, "Eta-conversions of IPC implemented in atomic F," Logic Journal of IGPL, to appear.
DOI: http://dx.doi.org/10.1093/jigpal/jzw035

Honda, N., Prelli, L. and Yamazaki, S. "Multi-microlocalization and microsupport," Bulletin de la Societé Mathématique de France, to appear.

Rasga, J., Sernadas, C. and Sernadas, A. "Preservation of admissible rules when combining logics". Review of Symbolic Logic, to appear.
DOI: http://dx.doi.org/10.1017/S1755020316000241

-in proceedings of conferences:

Edmundo, M and Prelli P., "O-minimality and sheaf cohomology," Boletim da Sociedade Portuguesa de Matemática, Encontro Nacional da SPM, special number, pp. 99-102, 2016.

Honda, N., Prelli, L. and Yamazaki, S. "Multi-microlocalization," RIMS Kokyuroku Bessatsu ISSN 1881-6193 B57 pp. 93-115, 2016.

Biomathematics and Statistics

Research Projects

DENFREE, WP4. Leader: Nico Stollenwerk
"Dengue research Framework for resisting Epidemics in Europe"
From Jan. 2012 to Dec. 2016; Total: 384 K€

Conference Proceedings

1. Nico Stollenwerk, Pablo Fuentes Sommer, Luis Mateus, Bob Kooi and Ma´ıra Aguiar (2015). Stochastic Hopf and torus bifurcations in population biology. AIP Conf. Proc. 1738, 390012.

2. Nico Stollenwerk, Thomas Gotz, Luis Mateus, PutraWijaya, DavidWillems, Urszula Skwara, Ramona Marguta, Peyman Ghaffari,and Ma´ıra Aguiar. (2015). Modelling Spatial Connectivity in Epidemiological Systems, Dengue Fever in Thailand on Networks from Radiation Models. AIP Conf. Proc. 1738, 390011.

3. Maíra Aguiar, Luis Mateus and Nico Stollenwerk. (2015). The currently best estimate for worldwide dengue vaccine efficacy. AIP Conf. Proc. 1738, 390014.

4. Maíra Aguiar, Roberto Cavoretto, Ezio Venturino and Nico Stollenwerk. (2015). Mathematical Models and Numerical Methods in Life Sciences. AIP Conf. Proc. 1738, 390001.

5. Nico Stollenwerk, Urszula Skwara, L´ıdia Aceto, ´Eric Daud´e, Ramona Marguta, Luis Mateus, Peyman Ghaffari, Andrea Parisi and Ma´ıra Aguiar. (2015). Power law jumps and power law waiting times, fractional calculus and human mobility in epidemiological systems. Proceedings of the 15th International Conference on Mathematical Methods in Science and Engineering, CMMSE, pp 1060-1072, ISBN978-84-617-2230-3 edited by Jesus V.A. et al., Almería, Spain.

6. Pablo Fuentes Sommer, Luis Mateus, Bob W. Kooi, Ma´ıra Aguiar and Nico Stollemwerk. (2015). Hopf and torus bifurcations in stochastic systems in mathematical population biology. Proceedings of the 15th International Conference on Mathematical Methods in Science and Engineering, CMMSE, pp 543-555, ISBN978-84-617-2230-3 edited by Jesus V.A. et al., Almería, Spain.

7. Luis Mateus, Maira Aguiar and Nico Stollenwerk. (2015). Bayesian estimation of vaccine efficacy. (2015). Proceedings of the 15th International Conference on Mathematical Methods in Science and Engineering, CMMSE, pp 794-802, ISBN 978-84-617-2230-3 edited by Jesus V.A. et al., Almería, Spain.

Talks in seminars or conferences

Maíra Aguiar: 1. February 5 2015 : "Modelling dengue fever epidemiology: complex dynamics and its implication for data analysis",PLENARY TALK at Sixth Workshop Dynamical Systems Applied to Biology and Natural Sciences (DSABNS),v Centro de Matemática e Aplicações Fundamentais (CMAF), Lisbon University, Portugal.

2. March 24 2015: "Modelling dengue fever epidemiology: complex dynamics and its implication for data analysis",v at Reuni˜ao Macrorregional sobre dengue e chikungunya organized by the National Dengue Control, Ministry ofvPublic Health, Rio de Janeiro, Brazil.

3. March 27 2015 :"Modelling dengue fever epidemiology: complex dynamics and its implication for data analysis", at Gerencia de Controle de Zoonoses, Secretaria Municipal de Saúde de Belo Horizonte, Minas Gerais, Brazil.

4. June 11 2015: "Modelling dengue fever epidemiology: complex dynamics and its implication for data analysis", atvAMS-EMS-SPM International Meeting. OPorto, Portugal

5. July 06 2015: "Feels right, but its so wrong: the impact of empirical data analysis on public health practical intervention" at 15th International Conference Computational and Mathematical Methods in Science and Engineeringv(CMMSE 2015), Cadiz, Spain.

6. July 23 2015: "Feels right, but its so wrong: the impact of empirical data analysis on public health practical intervention" INVITED TALK at Scientific Workshop Ecology of invasion: facing the impact of alien species and their transmitted pathogens in the Anthropocene (LEXEM), Riva del Garda (TN), Italy.

7. September 27 2015: "Feels right, but its so wrong: The impact of empirical data analysis on public health practical intervention" at 13th International Conference of Numerical Analysis and Applied Mathematics (ICNAAM 2015), Rhodos, Greece.

Nico Stollenwerk 1. DSABNS 2015: Feb. 6, 2015, Plenary talk "Chaos and noise in population biology: descriptive and predictive models in epidemiology based on empirical data"

2. CMMSE 2015: July 6 2015, Plenary talk "Power law jumps and power law waiting times, fractional calculus and human mobility in epidemiological systems"

3. ERICE MATHCOMPEPI 2015: August 31 2015, Plenary talk "Chaos and noise in population biology"

4. ICNAAM 2015: Sept. 28 2015, "Stochastic Hopf and torus bifurcations in population biology"
Peyman Ghaffari 1. Our proposal for COST in connection with Mosquito Repellent Technologies Based on Nano-Technology in Combating Vector-Borne diseases Location: Viana do Castelo Date: 15/08/2015

2. Brief Introduction: Feigenbaum Map-From deterministic chaos to stochastic processes Location: CMAF (Internal Seminar) Date: 10/11/2015

Pablo Sommer 1. 16 June 2015: "Rosenzweig MacArthur model and Holling type response functions" seminar as final project of the course dynamical systems and differential equations with professor Jorge Buescu

2. 16 June 2015: "Hopf and Torus Bifurcations in a predator-prey model", seminar presentation in Lisbon University

3. 27 October 2015: "Hopf and Torus Bifurcations in a predator-prey model" at the Biomath course

Luís Mateus 1. DSABNS Feb. 6, 2015: "Epidemiological models in semiclassical approximation: an analytically solvable model as test case"

2. CMMSE July 6 2015: "Estimating the efficacy of a candidate dengue vaccine"

3. ICNAAM September 27, 2015: " Modelling Spatial Connectivity in Epidemiological Systems, Dengue Fever in Thailand on Networks from Radiation Models, mas tenho a certeza de que a talk que dei foi Estimating the efficacy of a candidate dengue vaccine"

J. J. Gome   1. Doppler e rigidez arterial em doentes com coartação da aorta. Cordeiro S, Gomes J, Plácido R, Mendes IC, Anjos R. 20º Congresso Português de Cardiopneumologia. Hotel Axis Vermar Conference & Beach Resort, Povoa de Varzim, 20 a 22 de Março de 2015.

2. Magalhães, T.; Lopes, S.; Gomes, J - Study of the differences in mortality and length of hospital stay in acute myocardial infarction at hospital level. Workshop Management and Efficiency of Healthcare Organizations. Instituto de Higiene e Medicina Tropical / Universidade Nova de Lisboa, 27.04.2016

Pedro Afonso (orador), Sara Ferreira, M. Rosário Ramos. O Impacto do Burnout na empatia médico-doente XI Congresso Nacional de Psiquiatria, Vilamoura, 19-21 november 2015
http://www.congressos.abreu.pt/Xicongressopsiquiatria/programa.htm

Posters

Maíra Aguiar

1. August 10-14 2015: "How much complexity is needed to describe the fluctuations observed in dengue fever incidence data", at 14th International Dengue Course, Institute Pedro Kouri, La Habana, Cuba.

2. August 10-14 2015: "Carnival or football, is there a rial risk for acquiring dengue fever in Brazil during holidays seasons?", at 14th International Dengue Course, Institute Pedro Kouri, La Habana, Cuba

J. J. Gomes   Doppler parameters and aortic compliance in patients with aortic coarctation. Cordeiro S, Gomes J, Plácido R, Mendes IC, Anjos R. 49th Annual Meeting of the AEPC, 20 a 23 de Maio de 2015, Praga.

Clara Cordeiro, M. Rosário Ramos. Sensibilidade dos testes de tendência em séries temporais com valores omissos. XXII Congresso da Sociedade Portuguesa de Estatística (SPE 2015), Centro de Congressos de Olhão, 7-10 outubro 2015, ISSN: 978-972-8890-36-0. Website http://spe2015.mozello.com/

E. Carolino, M. Rosário Ramos, Carla Viegas, Susana Viegas. Análise discriminante: uma aplicação ao estudo da exposição ocupacional a partículas. XXII Congresso da Sociedade Portuguesa de Estatística (SPE 2015), Centro de Congressos de Olhão, 7-10 outubro 2015, ISSN: 978-972-8890-36-0. Website http://spe2015.mozello.com/.

M. Rosário Ramos, E. Carolino, Carla Viegas, Susana Viegas, Robust Linear Discriminant Analysis applied to the assessment of occupational exposure to particulate matter

International Conference on Numerical Analysis and Applied Mathematics 2015 (ICNAAM-2015), 23-29 september, http://history.icnaam.org/icnaam_2015/index-2.html

Published Abstracts

Cordeiro S,Gomes J, Plácido R, Mendes IC, Anjos R. Doppler parameters and aortic compliance in patients with aortic coarctation (P-153). Cardiology in the Young 2015; 25(S1): S131-S132
Cordeiro S, Gomes J, Plácido R, Mendes IC, Anjos R. TOP3 - Doppler e rigidez arterial em doentes com coartação da aorta. Cardiopulmonar 2015; 2: 16-17

Magalhães, T.; Lopes, S.; Gomes, J; Seixo F. - The Length of Hospital Stay in Acute Myocardial Infarction: A Predictive Model with Laboratory and Administrative Data. WorldCist 2015 Conference. Ponta Delgada, 01.04.2015. http://www.springer.com/gp/book/9783319165271

Magalhães, T.; Lopes, S.; Gomes, J - Study of the differences in mortality and length of hospital stay in acute myocardial infarction at hospital level. 10th Workshop on Statistics, Mathematics and Computation (WSMC10). Statistical Models in Applied Sciences. Instituto Politécnico de Tomar, 27.05.2016. http://conferencesstat.wixsite.com/wsmc10ppwb5.

M. Rosário Ramos, Manuela M. Oliveira, José G. Borges, Marc E. McDill. (2015). Statistical models for categorical data: Brief review for applications in ecology. AIP Conference Proceedings 1648, pages 840015-1 - 840015-4; AIP Publishing, doi: 10.1063/1.4913055.
http://scitation.aip.org/content/aip/proceeding/aipcp/10.1063/1.4913055

M. Rosário Ramos, E. Carolino, Carla Viegas, Sandra Viegas.(2016). Comparison of discriminant analysis methods: Application to occupational exposure to particulate matter. AIP Conference Proceedings 1738, pages 470006-1–470006-4; AIP Publishing, http://scitation.aip.org/content/aip/proceeding/aipcp/10.1063/1.4952236

Conferences organized in 2015

1. DSABNS 2015 - "Sixth Workshop Dynamical Systems Applied to Biology and Natural Sciences" http://dsabns2015.fc.ul.pt/

2. Special Session CMMSE "15th International Conference Computational and Mathematical Methods in Science and Engineering" http:// cmmse.usal.es/cmmse2015/

3. Special Session ICNAAM "13th International Conference of Numerical Analysis and Applied Mathematics" http://history.icnaam.org/icnaam_2015/index.html

9th workshop on Statistics Mathematics and Computation (WSMC9)
Universidade Aberta, Lisboa, 14-15 de dezembro 2015. Organizing Committee and Scientific Committee, M. Rosário Ramos

Jornadas de Matemática da Universidade Aberta (3as) (encontro de divulgação para os estudantes e público em geral). Universidade Aberta, Palácio Ceia, Lisboa 28 de março de 2015 Organizing Committee, M. Rosário Ramos.

Master and Ph.D. thesis

Luis Mateus - PhD Thesis to be submitted soon. Supervisor Nico Stollenwerk.

Pablo Sommer - Masters Thesis "Analysis of the Rosenzweig-MacArthur model with bifurcation structures and stochastic processes". Supervisor Nico Stollenwerk.

Teresa do Carmo Sousa Magalhães Barbosa, "Estudo de fatores preditivos das diferenças nos resultados de duração de internamento e de mortalidade em doentes com enfarte agudo do miocárdio", Candidatura ao grau de doutor em Saúde Pública, especialidade em Política, Gestão e Administração da Saúde, pela Escola Nacional de Saúde Pública, Universidade Nova de Lisboa Entregue em Março de Março 2106. Co-supervisor: J. J. Gomes.

M. Rosário Ramos: supervised 4 master theses:
"Modelos de Regressão: um estudo sobre a depressão em séniores". Ana Isabel Gonçalves Pereira. Aproved 2015/08/04.

"Extensões e Aplicações". Idálio Esperança Luís. Aproved May 2016.

"Modelos autorregressivos com valores inteiros não negativos: aplicação em séries económicas de Cabo Verde". Nataniel Lopes Barros. Aproved July 2016.

"Análise de Sobrevivência ao Cancro Colo-Retal nos períodos 2000-2001 e 2007-2008 na Região Norte de Portugal". Carlos Falcão Correia. Aproved July 2016.

- Articles submitted

Articles in International Journals

1. Mateus, L., Ghaffari, P., Skwara, U., Rocha, F., Aguiar, M., Masoero, D., & Stollenwerk, N. (2015). Semiclassical approximations of stochastic epidemiological processes towards parameter estimation using as prime example the SIS system with import. Ecological Complexity. In Press.

2. Aguiar, M. (2015). Scaling up complexity in host-pathogens interaction models. Accepted to be published in Physics of Life Reviews.

3. Cordeiro S, Gomes J, Mendes I, Martins D, Sousa A, Anjos R. Doppler Flow Pattern and Arterial Stiffness in Patients with Aortic Coarctation. 2016. Pediatric Cardiology. DOI:10.1007/s00246-016-1458-8. URL: http://dx.doi.org/10.1007/s00246-016-1458-8.