

## PUBLICATIONS 2007

### Chapters in books

1. S.N. ANTONTSEV AND HERMENEGILDO OLIVEIRA, *Finite time localized solutions of fluid problems with anisotropic dissipation*, International Series of Numerical Mathematics 154 (2007), Birkhauser, 23-32.
2. N. STOLLENWERK AND V.A.A. JASEN, *Criticality in epidemiology*, in “Complex Population Dynamics: Nonlinear Modeling in Ecology, Epidemiology and Genetics”, (B. Blasius, L. Stone, J. Kurths, eds) World Scientific Lecture Notes in Complex Systems 7, Singapore 2007, 159-188.
3. N. L. CONSIGLIERI AND J.F. RODRIGUES, *Steady-state Bingham flow with temperature dependent nonlocal parameters and friction*. Free boundary problems, 149-157, Internat. Ser. Numer. Math., 154, Birkhäuser, Basel, 2007.

### Books as Editors

1. ISABEL N. FIGUEIREDO, J.F. RODRIGUES AND L. SANTOS, *Free boundary problems. Theory and applications*, Papers from the 10<sup>th</sup> conference (FBP2005) held at the University of Coimbra, June 7-12, 2005. International Series of Numerical Mathematics, 154, Birkhäuser, Verlag, Basel, 2007.
2. A. AZEVEDO, J.F. RODRIGUES AND L. SANTOS, *The  $NS$ -membranes problem with Neumann type boundary condition*. Free boundary problems, 55-64, Internat. Ser. Numer. Math., 154, Birkhäuser, Basel, 2007.
3. A. AZEVEDO, J.F. RODRIGUES AND L. SANTOS, *The  $NS$ -membranes problem with Neumann type boundary condition*. Free boundary problems, 55-64, Internat. Ser. Numer. Math., 154, Birkhäuser, Basel, 2007.
4. A. AZEVEDO, J.F. RODRIGUES AND L. SANTOS, *The  $NS$ -membranes problem with Neumann type boundary condition*. Free boundary problems, 55-64, Internat. Ser. Numer. Math., 154, Birkhäuser, Basel, 2007.
5. A.C.C. FABIO CHALUB AND J.F. RODRIGUES, *A short description of Kinetic models for chemotaxis. Hyperbolic problems and regularity questions*, 59-68, Trends Math., Birkhäuser, Basel, 2007.

## Papers in international journals with referees

1. **S.N. ANTONTSEV**, BRAHIM AMAZIANE AND LEONID PANKRATOV, *Homogenization of a class of nonlinear elliptic equations with non-standard growth*, Comptes rendus de l' Académie des sciences, Mécanique, Paris, 335 (2007), 138-143.
2. **S.N. ANTONTSEV**, MICHEL CHIPOT AND YTIAN XIE, *Uniqueness results for equations of the  $p(x)$ -Laplacian type*, Advances in Mathematical Sciences and Applications, Vol. 17 (2007), 287-304.
3. **S.N. ANTONTSEV** AND ILDEFONSO DIAZ, *Mathematical analysis of the discharge of a laminar hot gas in a colder atmosphere*, RACSAM, Rev. R. Acad. Cien. Serie A. Mat, Vol. 101 (1) (2007), 119-124.
4. **M. I. BARÃO** (\*), L. DE HAAN AND D. LI, *Comparison of Estimators in Multivariate Extreme Value Theory*, International Journal of Statistics and Systems 2 (1), 2007.
5. **R. BARROS** AND SERGEY L. GAVRILYUK, *Dispersive nonlinear waves in two-layer flows with free surface. II. Large amplitude solitary waves embedded into the continuous sepectrum*, Studies in Applied Mathematics, 119, n3 (2007), 213-251, [IP=1.031; n°C=0]
6. **R. BARROS**, SERGEY L. GAVRILYUK AND VLADIMIR M. TESHUKOV, *Dispersive nonlinear waves in two-layer flows with free surface. I. Model derivation and general properties*, Studies in Applied Mathematics, 119, n3 (2007), 191-211. [IP=1.031; n°C=0]
7. S. BANDYOPADHYAY, **A. C. BARROSO**, B. DACOROGNA AND JOSÉ MATIAS, *Differential inclusions for differential forms*, Calculus of Variations, 28 (2007), 449-469. [IP=0.992; n°C=0]
8. J. L. DUCLA-SOARES, M. SANTOS-BENTO, A. ANDRADE, E. DUCLA-SOARES, **J. B. BOTO**, L. SILVA-CARVALHO AND **I. ROCHA**, *Wavelet analysis of autonomic outflow of normal subjects on head-up tilt, cold pressor test; Valsava manoeuvre and deep breathing*, Experimental Physiology 92 4: 677-686. [IP=2.339; n°C=0]
9. **J. BUESCO**, *Eigenvalue distribution of Mercer-like kernels*, Math. Nachr. 208 (2007), 984-995. [IP=0.382; n°C=0]
10. A.C. PAIXÃO AND **J. BUESCO**, *Eigenvalue distribution of positive definite kernels on unbounded domains*, and Operator Theory 57 (2007), 19-41. [IP=0.481; n°C=0]
11. **S.N. ANTONTSEV** AND **N.V. CHEMETOV**, *Flux of superconducting vortices through a domain*, 2SIAM Journal on Mathematical Analysis, Vol. 39, N° 1 (2007), 263-280. [IP=0.758; n°C=1]
12. **N.V. CHEMETOV** AND **MANUEL D.P. MONTEIRO MARQUES**, *Non-convex quasi-variational differential inclusions*, Set-Valued Analysis, Vol. 15, N°3 (2007), 209-221. [IP=0.707; n°C=]

13. **L. CONSIGLIERI** AND E.B. PIRES, *Analytical approach for the evaluation of the torques using inverse multibody dynamics*, *Multibody System Dynamics* 10:4 (2007), 491-502. <http://dx.doi.org/10.1007/s11044-007-9046-6> [IP=0.630; n°C=0]
14. JERZY MYCKA AND **JOSÉ FÉLIX COSTA**, *A new conceptual framework for analog computation*, *Theoretical Computer Science*, 374 (1-3) (2007), 277-290. [IP=0.843; n°C=1]
15. **BRUNO LOFF**, **JOSÉ FÉLIX COSTA** AND JERZY MYCKA, *Computability on reals, infinite limits and differential equations*, *Applied Mathematics and Computation*, 191 (2) (2007), 353-371. [IP=0.816; n°C=0]
16. **J. P. DIAS** AND **M. FIGUEIRA**, *Existence of weak solutions for a quasilinear version of Benney equations*, *J. Hyperbolic. Diff. Eq.*, 4 (2007), 555-563. [IP=0.500; n°C=0]
17. **J. P. DIAS**, **M. FIGUEIRA** AND FILIPE OLIVEIRA, *Existence of local strong solutions for a quasilinear Benney system*, *C. R. Acad. Sci. Paris, Ser.I*, 344 (2007), 493-496. n°C=0
18. **M.J. EDMUNDO**, G. JONES AND N. PEATFIELD, *Sheaf cohomology in o-minimal structures*, *J. Math. Logic* 6 (2) (2006), 163-179. n°C=1
19. **M.J. EDMUNDO** AND RAF CLUCKERS, *Integration of positive constructible functions against Euler characteristic and dimension*, *J. Pure and App. Algebra* 208 (2) (2007), 691-698. [IP=0.470; n°C=]
20. **M.J. EDMUNDO**, *A fixed point theorem in o-minimal structures*, *Ann. Inst. Fourier Grenoble* 57 (5) (2007), 1441-1450. [IP=0.698; n°C=0]
21. **M.J. EDMUNDO** AND P. ELEFTHERIOU, *The universal covering homomorphism in o-minimal expansions of groups*, *Math. Logic Quart.* 53 (6) (2007), 571-582. [IP=0.629; n°C=]
22. **T. FARIA** AND J.J. OLIVEIRA, *Global attractivity for scalar differential equations with small delay*, *J. Math. Anal. Appl.*, 329 (2007), 1397-1420. [IP=0.758; n°C=0]
23. **T. FARIA** AND S. TROFIMCHUK, *Positive Heteroclinics and Traveling Waves for Scalar Population Models with a Single Delay*, *Appl. Math. Comput.*, 185 (2007), 594-603. [IP=0.816; n°C=1]
24. **F. FERREIRA** AND PAULO OLIVA, *Bounded Functional Interpretation and Feasible Analysis*, *Annals of Pure and Applied Logic*, 207, 145 (2007), 115-129. [IP=0.582; n°C=]
25. J. ESCHENBURG, **M.J. FERREIRA** AND R. TRIBUZY, *Isotropic ppmc immersions*, *Diff. Geom. Appl.* 25 no. (2007), 351-355. [IP=0.407; n°C=0]
26. **M.J. FERREIRA** AND R. TRIBUZY, *On the nullity of isometric immersions from Kahler manifolds*, *Rend. Sem. Mat. Torino*, 65, no. 4 (2007).
27. **M.G.M. GOMES**, P. RODRIGUES, F.M. HILKER, N.B. MANTILLA BENIERS, **M. MUEHLEN**, A.C. PAULO AND G.F. MEDLEY, *Implications of partial immunity on the prospects for tuberculosis control by post-exposure interventions*, *Journal of Theoretical Biology*, 248 (2007), 608-617. [IP=2.264; n°C=0]
28. S. P. VAN NOORT, J.M.L. LOURENÇO, H. REBELO DE ANDRADE, **M. MUEHLEN** AND **M.G.M. GOMES**, *Gripenet: An internet-based system to monitor influenza-like illness uniformly across Europe*, *Eurosurveillance Monthly*, Vol. 12, Issue 7-8. (<http://www.eurosurveillance.org/em/v12n07/1207-223.asp>)

29. L.J. WHITE, J.N. MANDL, **M.G.M. GOMES**, A.T. BODLEY-TICKELL, P.A. CANE, P. PEREZ, M.M. SIQUEIRA, S.A. PORTES, S.M. STRALIOTTO, M. WARIS, G.F. MEDLEY AND D.J. NOKES, *Understanding the transmission dynamics of RSV: Multiple time series and nested models*, *Mathematical Biosciences*, 209 (2007), 222-239. [IP=1.126; n°C=0]
30. D. GÖKAYDIN, J.B. OLIVEIRA-MARTINS, I. GORDO AND **M.G.M. GOMES**, *Reinfection thresholds regulate pathogen diversity: The case of influenza*, *Royal Society Interface*, 4 (2007), 137-142.
31. JOÃO A.C. MARTINS, **MANUEL D.P. MONTEIRO MARQUES** AND ADRIEN PETROV, *On the stability of quasi-static paths for finite-dimensional elastic-plastic systems with hardening*, *ZAMM*, 87 (2007), 303-313.
32. RAOUL DZONOU AND **MANUEL D.P. MONTEIRO MARQUES**, *A sweeping process approach to inelastic contact problems with general inertia operators*, *European Journal of Mechanics A/Solids*, 26 (2007), 474-490. [IP=0.897; n°C=]
33. RAOUL DZONOU, LAETITIA PAOLI AND **MANUEL D.P. MONTEIRO MARQUES**, *Algorithme de type "sweeping process" pour un problème de vibro-impact avec un opérateur d'inertie non trivial*, *Comptes Rendus de l'Académie des Sciences de Paris-Mécanique*, 335 (2007), 56-60.
34. **R. VILELA MENDES** AND F. CIPRIANO, "A stochastic representation for the Poisson-Vlasov equation", <http://dx.doi.org/10.1016/j.cnsns.2007.05.008>, on line, to appear in paper form in *Communications in Nonlinear Science and Numerical Simulation* 13 (2008), 221-226.
35. E. FLORIANE, R. LIMA AND **R. VILELA MENDES**, "Poisson-Vlasov: Stochastic representation and numerical codes", *European J. of Physics D* (DOI: 10.1140/epjd/e2007-00302-7) on line. [IP=0.595; n°C=0]
36. **R. VILELA MENDES** AND R. LIMA, "Fluctuations and control in the Vlasov-Poisson equation" *Physics Letters A* 368 (2007) 87-91. [IP=1.468; n°C=0]
37. L. VAZQUEZ AND **R. VILELA MENDES**, *The dynamical nature of a backlash system with and without fluid friction*, *Nonlinear Dynamics* 47 (2007), 363-366. [IP=0.902; n°C=0]
38. J.F. MARTINS, P.J. SANTOS, A.J. PIRES AND **R. VILELA MENDES**, *Entropy-based choice of a neural network drive model*, *IEEE Transactions on Industrial Electronics* 54 (2007), 110-116. [IP=0.590; n°C=]
39. P. RODRIGUES, **M.G.M. GOMES** AND **C. REBELO**, *Drug-resistance in tuberculosis a reinfection model*, *Theoretical Population Biology*, 71 (2007), 196-212. [IP=2.491; n°C=0]
40. **RICARDO ENGUIÇA** AND **L. SANCHEZ**, *Existence and localization of solutions for fourth-order boundary-value problems*, *Electr. J. Diff. Equations* Vol. 2007. N° 127 (2007), 1-10.
41. P. HABETS AND **L. SANCHEZ**, *A monotone method for fourth order boundary value problems involving a factorizable linear operator*, *Portugaliae Mathematica* 64 (2007), 255-279.
42. J. ANGEL CID, A. CABADA AND **L. SANCHEZ**, *Positivity and lower and upper solutions for fourth order boundary value problems*, *Nonlinear Analysis Series A: Theory, Methods & Applications* 67 (2007), 1599-1612.

43. **LUIS SARAIVA**, *The Beginnings of the Royal Military Academy of Rio de Janeiro*, Revista Brasileira de História da Matemática, vol. 7 (2007), n° 13, 19-41.
44. **N. STOLLENWERK**, **J. MARTINS** AND **A. PINTO**, *The phase transition lines in pair approximation for the basic reinfection model SIRI*, Physics Letters A 371, (2007), 379-388. [IP=1.468; n°C=0]
45. **PAOLA D'AQUINO** AND **GIUSEPPINA TERZO**, *A note on the decidability of exponential terms*, Math. Log. Quart., 53, n3 (2007), 306-310. [IP=0.629; n°C=0]
46. **C. BARBAROSIE** AND **ANCA-MARIA TOADER**, *Saint-Venant's principle and its connections to shape and topology optimization*, Journal of Applied Mathematics and Mechanics ZAMM, 88, n1, (2007), 23-32.
47. **P. G. BOUCHITTÉ**, **L. MASCARENHAS (\*)** AND **LUIS TRABUCHO**, *On the Curvature and Torsion Effects in Onedimensional Waveguides*, ESIM: COCV, Vol. 13 (4) (2007), 793-808. n°C=1
48. **I. BEN-YAACOV** AND **A. USVYATSOV**, *On d-finiteness in continuous structures*, Fundamentae Mathematicae, Vol. 194 (2007) 67-88.

## COMMUNICATIONS IN SCIENTIFIC CONFERENCES

### Communications in international conferences

1. **S.N. ANTONTSEV** AND **HERMENEGILDO BORGES DE OLIVEIRA**, *Navier-Stokes equations with absorption under slip boundary conditions: existence, uniqueness and extinction in time*, RIMS Kôkyûroku Bessatsu, Vol. B1, pp.21-41, Kyoto University, Japan (2007).
2. **L. CONSIGLIERI** AND **E.B. PIRES**, *Um modelo analítico para a determinação de momentos internos utilizando dinâmica inverse de multi-corpos*, "CMNE-Congresso de Métodos Numéricos em Engenharia, XXVIII CILAMCE-Congresso Ibero Latino-Americano sobre Métodos Computacionais em Engenharia", Univ. do Porto, 13-15 Junho 2007, Métodos Numéricos e Computacionais em Engenharia CMNE CILAMCE 2007, ED. J. César de Sá, R. Delgado, A.D. Santos, A. Rodríguez-Ferran, J. Oliver, P.R.M. Lyra e J.L.D. Alves, APMTAC/FEUP, Porto, 2007.

## Communications in national conferences

1. **S.N. ANTONTSEV** AND **ILDEFONSO DIAZ**, *Mathematical models of hydrological cycle: channel level and surface ground water flows*, CD-Rom das Actas do Congresso Métodos Numéricos e Computacionais em Engenharia, CMNE CILAMCE, Porto, Portugal, 13-15 de Junho, (2007), pp. 1-20.
2. **S.N. ANTONTSEV**, **ILDEFONSO DIAZ** AND **HERMENEGILDO BORGES DE OLIVEIRA**, *Mathematical models in dynamics of non-Newtonian fluids and in glaciology*, CD-Rom das Actas do Congresso Métodos Numéricos e Computacionais em Engenharia, CMNE CILAMCE, Porto, Portugal, 13-15 de Junho, (2007), pp. 1-20.

## Publications in Proceedings of international conferences

1. **DANIEL PACHECO** AND **JOSÉ FÉLIX COSTA**, *The abstract immune system algorithm*, in S.G. Akl, C.S. Calude, M.J. Dinneen, G. Rozenberg and H.T. Wareham (eds.), Proceedings of the 6<sup>th</sup> Intl. Unconventional Computation 2007, Lecture Notes in Computer Science 4618, Springer, 2007, 137-149. COMPANION Immune Lab.
2. **JOSÉ FÉLIX COSTA**, **BRUNO LOFF** AND **JERZY MYCKA**, *The new promise of analog computation*, invited paper, in S. Barry Cooper, Benedikt Löwe and Andrea Sorbi (eds.), Third Conference on Computability in Europe, CiE2007, Siena, Italy, June 18-23, 2007, Computation and Logic in the Real World, Lecture Notes in Computer Science 4497: 189-195, Springer, 2007.
3. **LUÍS MIGUEL GOMES** AND **JOSÉ FÉLIX COSTA**, *Hybrid finite computation*, in S. Barry Cooper, Thomas F. Kent, Benedikt Löwe and Andrea Sorbi (eds.), Third Conference on Computability in Europe, CiE2007, Siena, Italy, June 18-23, 2007, Computation and Logic in the Real World, Local Proceedings, Technical report no. 487 June 2007, 178-185.
4. **F. CIPRIANO**, **H. OUERDIANE** AND **RUI VILELA MENDES**, *A nonlinear stochastic equation of convolution type*, Proceedings of the International Conference on Mathematical Analysis of Random Phenomena, pp. 73-84.
5. **RUI VILELA MENDES**, *Path-integral estimates of ground-state functionals*, Proceedings of the International Conference on Mathematical Analysis of Random Phenomena, pp. 169-177.

6. **S. ANTONTSEV AND HERMENEGILDO BORGES DE OLIVEIRA**, *Navier-Stokes equations with absorption under slip boundary conditions: existence, uniqueness and extinction in time*, RIMS Kôkyûroku Bessatsu B1: Kyoto Conference on the Navier-Stokes Equations and their Applications, eds. Y. Giga, H. Kozono, H. Okamoto and Y. Shibata, Kyoto University, 2007, 21-42.
7. **S. ANTONTSEV AND HERMENEGILDO BORGES DE OLIVEIRA**, *On a Mathematical model in ice sheet dynamics*, Proceedings of the 5 th IASME/WSEAS International Conference on Fluid Mechanics and Aerodynamics, IASME/WSEAS, eds. S. Sohrab, H. Catrakis, N. Kobasco and S. Necasova, WSEAS Press, Athens, 2007, 1-8.
8. **N. STOLLENWERK AND R. MIKOLAJCZYK**, *Algorithm for parameter estimation in nosocomial infection*, Mathematical Modelling of Biological Systems, 2, (2007), 23-34.

## SCIENTIFIC MEETINGS AND SEMINARS

### Organization of Seminars and Conferences

1. **S.N. ANTONTSEV**, Fourth International Conference of Applied Mathematics and Computing, Bulgaria; Plovdiv, August 12-18, 2007 (member of organizing committee). <http://math.uctm.edu/conference2007>
2. **S.N. ANTONTSEV**, Fifth International Conference on Mathematical Modeling, Yakutsk, Russia, July 24-28, 2007: Member og Organizing Committee.
3. **J.P. DIAS**, Iberian Mathematical Meeting, Lisbon, February 9-11, 2007: Member of the Scientific Committee.
4. **M.G.M. GOMES**, Lisbon Epidemiology Consortium-Inaugural meeting Instituto Gulbenkian de Ciência/Universidade de Lisboa, 10-11 September 2007.
5. **I. OITAVEM AND R. KAHLE**, “Seminário de Lógica e Computação”, DM, Universidade de Coimbra, <http://www.mat.uc.pt/~kahle/seminario/>
6. **HERMENEGILDO BORGES DE OLIVEIRA**, Seminar of Fernando Carapau, Universidade de Évora, 1 D simulations of shear-thinning fluids with applications to blood flow, 06/06/2007. Universidade do Algarve.

7. **LUIS SARAIVA** (coordinator, CMAF), **ISABEL FERREIRIM** (CAUL), **CATARINA SANTA CLARA** (CAUL) AND **ANTÓNIO FERNANDES** (IST), Colloquium António Aniceto Monteiro, on the centenary of his birth, Lisbon, June 4-5, 2007.
8. 5th Luso-Brazilian Meeting on the History of Mathematics, Castelo Branco, October 3-7, 2007. Organizing Committee: José Alberto Duarte (local coordinator), Paulo Martins Afonso, José Mariano Filipe, Sara Dias Nunes, Carla Sofia Ponte, Agnelo Quelhas, **Luis Saraiva** (national coordinator, CMAF); Scientific Committee: Circe M. da Silva Dynnikov (UFES-Brazil), John A. Fossa (UFRN-Brazil), Helmuth Malonek (Universidade de Aveiro, Portugal), Sérgio Nobre (Unesp-Rio Claro/Brazil): Brazil Coordinator, Carlos Sá (Faculdade de Ciências do Porto, Portugal), **Luis Saraiva** (CMAF/Universidade de Lisboa, Portugal): Portugal Coordinator, Jaime Carvalho e Silva (Universidade de Coimbra, Portugal)  
<http://www.5lusobrasil-histmat.org/>

## PUBLICATIONS 2008

### Chapters in books

1. **L. CONSIGLIERI** AND **A.R. DOMINGOS**, *An analytical solution for the ionic flux in an axonal membrane model*, Progress in Mathematical Biology Research, Nova Publishers, Chapter 11,321-333, 2008.
2. HORST MALCHOW, **FRANK M. HILKER**, IVO SIEKMANN, SERGEI V. PETROVSKII AND ALEXANDER B. MEDVINSKY, *Mathematical models of pattern formation in planktonic predation-diffusion systems: a review*, in "Aspects of Mathematical Modelling, (Hosking RJ, Venturino E, eds.), Birkhauser, Basel, 2008, 1-26.
3. **HERMENEGILDO BORGES DE OLIVEIRA**, *On the influence of an absorption term in incompressible fluid flows. To appear in "Mathematical Fluid Mechanics: A tribute to G. P. Galdi"*, Editors: A. Sequeira and R. Rannacher, Springer-Verlag, 2008.
4. A. GAVIOLI AND **L. SANCHEZ**, *On Bounded Trajectories for Some Non-Autonomous Systems*, in *Differential Equations, Chaos and Variational Problems*, Series: Progress in Nonlinear Differential Equations and Their Applications , Vol. 75, 2008, Staicu, Vasile (Ed.) 211-222.



## Books as Editors

1. **LUIS SARAIVA AND CATHERINE JAMI (EDITORS)**, History of Mathematical Sciences: Portugal and East Asia III. The Jesuits, the Padroado and East Asian Science (1552-1773), World Scientific, London/Singapore, xviii+229 pp. (2008).
2. **LUIS SARAIVA AND JOSÉ CARLOS SANTOS (EDITORS)**, António Aniceto Monteiro (1907-1980), Proceedings of the Colloque , Boletim da Sociedade Portuguesa de Matemática, special issue, 299pp. (2008)

## Papers in international journals with referees

1. **T. ALPUIM AND ABDEL EL-SHAARAWI**, *On the efficiency of regression analysis with AR(p) errors*, Journal of Applied Statistics, Vol. 35, No. 7, 717-737 (2008).
2. **PAULO AMORIM AND PHILIPPE. G. LEFLOCH**, *Sharp estimates for periodic solutions to the Euler -Poisson-Darboux equation*, Portugaliae Mathematica Vol. 65, No 3 (2008), 387-429.
3. **PAULO AMORIM, PHILIPPE G. LEFLOCH AND BAVER OKUTMUSTUR**, *Finite volume schemes on Lorentzian manifolds*, Commun. Math. Sci. Vol. 6, No. 4 (2008) pp. 1059-1086.
4. **S.N. ANTONTSEV AND J.I. DÍAZ**, *On the coupling between channel level and surface ground- water flows*, Journal Pure and Applied Geophysics, 165(8), (2008), 1511-1530.
5. **S.N. ANTONTSEV, B. AMAZIANE, L. PANKRATOV, A. PIATNITSKI**,  *$\Gamma$ -convergence and homogenization of functionals in Sobolev spaces with variable exponents*, Journal of Mathematical Analysis and Applications, Issue 2, Vol. 342 (2008), 1192-1202.
6. **S.N. ANTONTSEV AND M. CHIPOT**, *Anisotropic equations: uniqueness and existence results*, Differential and Integral Equations, Vol. 21, Numbers 5-6 (2008), 401-419.
7. **S.N. ANTONTSEV AND J.I. DÍAZ**, *Mathematical analysis of the discharge of a laminar hot gas in a stagnant colder atmosphere* Journal of Applied Mechanics and Technical Physics., Vol. 49. N. 4 (2008), pp. 681-692, (Translated from Prikladnaya Mekhanika i Tekhnicheskaya Fizika , Vol. 49. N. 4 (2008), pp.192-205).
8. **S.N. ANTONTSEV AND N.V. CHEMETOV**, *Euler equations with non-homogeneous Navier slip boundary condition*, Journal Physica D: Nonlinear Phenomena, Vol. 237, no. 1, (2008), 92-105.

9. **S.N. ANTONTSEV** AND **S.I. SHMAREV**, *Existence and uniqueness of solutions of degenerate parabolic equations with variable exponents of nonlinearity*, Journal of Mathematical Sciences , Volume 150, Number 5 / May, (2008), 2289-2301.
10. **S.N. ANTONTSEV** AND **S.I. SHMAREV**, *Extinction of Solutions of Parabolic Equations with Variable Anisotropic Nonlinearities*, Proceedings of the Steklov Institute of Mathematics, Moscow, Russia, Volume 61, Number 1/July (2008), 11-21, Pleiades Publishing, Ltd.
11. **C. BARBAROSIE** AND **A.M. TOADER**, *Saint-Venant's principle and its connections to shape and topology optimization*, Journal of Applied Mathematics and Mechanics (ZAMM), vol. 88, 1, p. 23-32, 2008.
12. **C. BARBAROSIE** AND **S. LOPES**, *Study of the cost functional for free material design problems*, Numerical Functional Analysis and Optimization, 29 (1-2), p. 115-125, 2008.
13. **S.N. ANTONTSEV** AND **HERMENEGILDO BORGES DE OLIVEIRA**, *Qualitative properties of the ice-thickness in a 3D model*, WSEAS Transactions on Mathematics, 7 (2008) no. 3, pp. 78-86.
14. **J. BOTO**, *On the boundedness of operators in  $L^p(l^q)$  and Triebel-Lisorkin spaces*, Journal of function spaces and applications Vol.6, Num. 2 (2008), 177-186.
15. **J. BUESCU**, *Liapunov stability and the ring of P-adic integers*, São Paulo Journal of Mathematical Sciences 2, 1 (2008) 77-84.
16. **L. CONSIGLIERI**, *Friction boundary conditions on thermal incompressible viscous flows*, Annali di Matematica Pura ed Applicata 187:4 (2008), 647--665.
17. **L. CONSIGLIERI**, *A  $(p-q)$  coupled system in elliptic nonlinear problems with nonstandard boundary conditions*, J. Math. Anal. Appl. 340:1 (2008), 183--196.
18. **N.V. CHEMETOV**, **M.D.P. MONTEIRO MARQUES** AND **U. STEFANELLI**, *Ordered non-convex quasi-variational sweeping processes*, Journal of Convex Analysis 15, No. 2, (2008), 201-214.
19. **EDWIN BEGGS**, **JOSÉ FÉLIX COSTA**, **BRUNO LOFF** AND **JOHN TUCKER**, *Computational complexity with experiments as oracles*, Proceedings of the Royal Society, Series A (Mathematical, Physical and Engineering Sciences), 464 (2008): 2777--2801.
20. **JERZY MYCKA**, **JOSÉ FÉLIX COSTA** AND **FRANCISCO COELHO**, *The Euclid abstract machine*, International Journal of Unconventional Computing, 4(3): 223--248, Special Issue Towards a Theory of Unconventional Computing, Old City Publishing, Inc., 2008.
21. **PEDRO DUARTE**, *Elliptic isles in families of area-preserving maps*, Ergodic Theory & Dynamical Systems, No. 28, (2008), 1781-1813.
22. **M. BESSA** AND **PEDRO DUARTE**, *Abundance of elliptic dynamics on conservative 3-flows*, Dynamical Systems, Volume 23, Issue 4, (2008), 409-424.
23. **PEDRO DUARTE** AND **M. JOANA TORRES**, *Spectral Stability of Markov systems Nonlinearity*, no 21, (2008) 381-397.
24. **M.J. EDMUNDO** AND **N. PEATFIELD**, *O-minimal Cech cohomology*, Quart. J. Math. 59 (2) (2008) 213-220.
25. **M.J. EDMUNDO** AND **A. WOERHEIDE**, *Comparison theorems for o-minimal singular (co)homology*, Trans. Amer. Math. Soc. 360 (9) (2008) 4889-4912.

26. **PANTELIS E. ELEFThERIOU**, *A semi-linear group which is not affine*, Annals of Pure and Applied Logic 156 (2008), 287-289.
27. **T. FARIA** AND **J.J. OLIVEIRA**, *Local and global stability for Lotka-Volterra systems with distributed delays and instantaneous feedbacks*, J. Differential Equations, 244 (2008), 1049–1079.
28. **F. FERREIRA**, *The co-ordination principles: a problem for bilateralism*, discussion note, Mind 117, (2008), 1051-1057.
29. **F. FERREIRA** AND **GILDA FERREIRA**, *The Riemann integral in weak systems of arithmetic*, Journal of Universal Computer Science 14, (2008), 908-937.
30. **F. FERREIRA** AND **GILDA FERREIRA**, *Harrington's conservation result redone*, Archive for Mathematical Logic 47, (2008), 91-100.
31. **F. FERREIRA**, *A most artistic package of a jumble of ideas*, Dialectica 62, (2008), 205-222.
32. **MS.R. NOBRE**, **J.E. CABRAL**, **J.J. GOMES** AND **M.C. LEITÃO**, *In-hospital mortality in spontaneous bacterial peritonitis: a new predictive model*, Eur J Gastroenterol Hepatol, 20(12), (2008), 1176 - 1181.
33. **M.J. PARKER**, **M.G.M. GOMES** AND **I.N. STEWART**, *Examples of forced symmetry-breaking to homoclinic cycles in three-dimensional Euclidean-invariant systems*, International Journal of Bifurcation and Chaos (2008), 18, 83-107.
34. **M.J. PARKER**, **I.N. STEWART** AND **M.G.M. GOMES**, *Partial classification of heteroclinic behaviour associated with the perturbation of hexagonal planforms*, Dynamical Systems - An International Journal 23, (2008), 137-162.
35. **R. ÁGUAS**, **L.J. WHITE**, **R.W. SNOW** AND **M.G.M. GOMES**, *Prospects for malaria eradication in sub-Saharan Africa*, PLoS ONE 3(3): e1767 (2008).
36. **A.C. PAULO**, **M.G.M. GOMES** AND **M.C. GOMES**, *Dynamics and control of measles in Portugal: high coverage with MMR 1 is crucial to sustain elimination*, Vaccine 26, 2418-2427 (2008).
37. **FRANK M. HILKER** AND **KIRSTEN SCHMITZ**, *Disease-induced stabilization of predator-prey oscillations*, Journal of Theoretical Biology, 255, n3, (2008), 299-306.
38. **R. SÁ-LEÃO**, **R.**, **S. NUNES**, **A. BRITO-AVÔ**, **C. R. ALVES**, **J. A. CARRIÇO**, **J. SALDANHA**, **J. S. ALMEIDA**, **I. SANTOS SANCHES** AND **H. DE LENCASTRE**, *High rates of transmission and colonization by Streptococcus pneumoniae and Haemophilus influenzae within a day-care center revealed in a longitudinal study*, J. Clin. Microbiol. (2008) 46:225-234.
39. **S. NUNES**, †, **R. SÁ-LEÃO**, **L. PEREIRA**, AND **H. DE LENCASTRE**, *Emergence of a serotype 1 Streptococcus pneumoniae lineage colonizing healthy children in Portugal in the 7-valent conjugate vaccination era*, Clin. Microbiol. Infect. 14: 82-84 (2008).
40. **S. NUNES**, **R. SÁ-LEÃO**, AND **H. DE LENCASTRE**, *Optochin resistance among Streptococcus pneumoniae colonizing healthy children in Portugal*, J. Clin. Microbiol. 46:321-324 (2008).
41. **JOÃO A.C. MARTINS**, **M. D.P. MONTEIRO MARQUES** AND **ADRIEN PETROV**, *On the stability of quasi-static paths for finite-dimensional elastic-plastic systems with hardening*, J. Math. Anal. Appl., 343 (2008), 1007-1021.

42. **R. VILELA MENDES** AND F. CIPRIANO, *A stochastic representation for the Poisson-Vlasov equation*, Communications in Nonlinear Science and Numerical Simulation, 13 (2008) 221-226.
43. E. FLORIANE, R. LIMA AND **R. VILELA MENDES**, *Poisson-Vlasov: stochastic representation and numerical codes*, European Physical Journal D 46 (2008) 295-302.
44. **R. VILELA MENDES**, *The fractional volatility model: An agent-based interpretation*, Physica A: Statistical Mechanics and its Applications, 387 (2008) 3987-3994.
45. **R. VILELA MENDES** AND **M. JOÃO OLIVEIRA**, *A data-reconstructed fractional volatility model*, Economics Discussion Papers 2, No. 2008-22 (2008).
46. PH. GHENDRIH, R. LIMA AND **R. VILELA MENDES**, *Reduction and approximation in guiding-center dynamics*, J. Phys. A: Math. Theor. 41 (2008) 465-501.
47. **OITAVEM**, *Characterization of PSPACE with pointers*, Mathematical Logic Quarterly 54, no. 3, (2008), 317-323.
48. **M. JOÃO OLIVEIRA**, YU. G. KONDRATIEV AND T. KUNA, *Extension of explicit formulas in Poissonian white noise analysis using harmonic analysis on configuration spaces*, Condensed Matter Physics 11 No. 2 (54) (2008), 237--246.
49. **J.F. RODRIGUES**, M SANCHÓN AND J.M. URBANO, *The obstacle problem for nonlinear elliptic equations with variable growth and  $L^1$ -data*, in Monatsh. Math. 154 (2008), 303-322.
50. **J.F. RODRIGUES** AND L. SANTOS, *A unilateral multiphase problem with Neumann type boundary condition*, in (Chiba, 2007), GAKUTO Internat. Ser. Math. Sci. Appl., 29, Gakkotosho, Tokyo, (2008), 353-362.
51. **J.F. RODRIGUES**, L. SANTOS AND J.M. URBANO, *The nonlinear  $N$ -membranes evolution problem*, Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI) 362 (2008), 303-324.
52. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI) 362 (2008), 303-324.
53. **R. ENGUIÇA** AND **L. SANCHEZ**, *A nonlocal maximum principle and applications*, Communications in Applied Nonlinear Analysis, Volume 15 (2008), Number 1, 1–17.
54. A. GAVIOLI AND **L. SANCHEZ**, *On a class of bounded trajectories for some non-autonomous Systems*, Mathematische Nachrichten, 281 (2008), No.11, 1557–1565.
55. E. MASSAD, M. CHEN, S. MA, C.J. STRUCHINER, **N. STOLLENWERK** AND M. AGUIAR, *Scale-free Network for a Dengue Epidemic*, Applied Mathematics and Computation (2008), 159, 376--381.
56. E. M. AGUIAR, B. KOOI AND **N. STOLLENWERK**, *Epidemiology of dengue fever: A model with temporary cross-immunity and possible secondary infection shows bifurcations and chaotic behaviour in wide parameter regions*, Math. Model. Nat. Phenom (2008), 48-70.
57. A. PISTOIA AND **M. RAMOS**, *Spike-layered solutions of singularly perturbed elliptic systems*, NoDEA-Nonlinear Differential Equations Appl.15 (2008), 1-23.
58. S. SHELAH AND **A. USVYATSOV**, *More on  $SOP_1$  and  $SOP_2$* , Ann. Pure Appl. Logic 155 (2008), no. 1, 16-31.

59. **A. USVYATSOV**, *Generic separable metric structures*, Topology and its Applications, 155 (2008), 1607-1617.
60. **LUIS SARAIVA**, *Mathematics in the Memoirs of the Lisbon Academy of Sciences in the 19th Century*, Historia Mathematica vol. 35, 4 (2008), pp. 302-326.
61. **TAMARA SERVI**, *Noetherian varieties in definably complete structures*, Logic and Analysis, Vol. 1, No. 3. (1 November 2008), pp. 187-204.
62. **M. RAMOS AND H. TAVARES**, *Solutions with multiple spike patterns for an elliptic system. (English summary)*, Calc. Var. Partial Differential Equations 31 (2008), no. 1, 1--25.

### Online:

1. **A. CARLEN, M. CARVALHO, R. ESPOSITO, J. L. LEBOWITZ AND R. MARRA**, *Displacement convexity and minimal fronts at phase boundaries*, Archive for Rat. Mech. Analysis, doi: 10-1007/50025-008-0190-9.
2. **BRUNO LOFF, JOSÉ FÉLIX COSTA AND JERZY MYCKA**, *A foundation for real recursive function theory*, Annals of Pure and Applied Logic, 2009, doi:10.1016/j.apal.2009.01.013, in print.
3. **S. NUNES, C. VALENTE, R. SÁ-LEÃO AND H. DE LENCASTRE**, *Secular trends and molecular epidemiology of the recently described serotype 6C of Streptococcus pneumoniae*, J. Clin. Microbiol. 2008 Dec 10. Epub ahead of print.
4. **J.F. MARTINS, J.A. DENTE, A.J. PIRES AND R. VILELA MENDES**, *From controlled dynamical systems to context-dependent grammars: A connectionistic approach*, Engineering Applications of Artificial Intelligence, doi:10.1016/j.engappai.2008.05.005.
5. **R. VILELA MENDES**, *A fractional calculus interpretation of the fractional volatility model*, Nonlinear Dynamics, doi:10.1007/s11071-008-9372-0.
6. **ERIC CARLEN AND VILELA MENDES**, *Signal reconstruction by random sampling in chirp space*, Nonlinear Dynamics, doi:10.1007/s11071-008-9394-7.

### Papers in national journals with referees

1. **F. FERREIRA**, *Grundlagenstreit e o intuicionismo Brouweriano*, Boletim da SPM 58, (2008), 1-23.
2. **LUIS SARAIVA**, António Aniceto Monteiro (1907-1980), António Aniceto Monteiro, Proceedings of the Colloque, Special issue of the Boletim da Sociedade Portuguesa de Matemática, 2008, pp. 5-11.

## COMMUNICATIONS IN SCIENTIFIC CONFERENCES

### Communications in international conferences

3. **PEDRO DUARTE**, J.E. PINA CABRAL, S. NOBRE, **J. GOMES**, P. FREIRE, P. MONSANTO, C. LÉRIAS, C. SOFIA AND M. CORREIA LEITÃO, *In-Hospital Mortality Spontaneous Bacterial Peritonitis: Validation of a New Predictive Model (MELD Score plus Age)*, poster in 16th United European Gastroenterology Week, Vienna, 2008.
4. **T. FARIA**, *Global stability and singularities for Lotka-Volterra systems with delays*, to appear in Proceedings of the Conference on Boundary Value Problems. Mathematical Models in Engineering, Biology and Medicine, American Institute of Physics.
5. **R. SÁ LEÃO**, *Day care centers as major players in the epidemiology of pneumococi*. Symposium of the Northern Ireland Regional Infectious Diseases Research Group. Ballycastle, Northern Ireland. October 17-18, 2008.
6. **R. SÁ LEÃO** AND H. DE LENCASTRE, *Antibiotic resistance in S. pneumoniae strains emerging under vaccine pressure*. 6th International Symposium on Pneumococci & Pneumococcal Diseases (ISPPD-6). Reykjavík, Iceland. June 8 - 12, 2008.
7. BRUNO LOFF AND **ISABEL OITAVEM**, *Monotonicity conditions over characterizations of Pspace, Logic and theory of algorithms*, 4th Conference on Computability in Europe, local proceedings, 2008, p.507.

### Communications in national conferences

8. **R. SÁ LEÃO**, *Streptococcus pneumoniae in healthy populations*, European Antibiotic Awareness Day Symposium. INFARMED. Lisbon, Portugal. November 18, 2008.
9. **R. SÁ LEÃO**, *Pneumococcal conjugate vaccine and colonization in children attending day-care centers in Portugal*. 3o Curso de Infecçiologya Pediátrica. Coimbra, Portugal. January 28-29, 2008.
10. **R. SÁ LEÃO**, *Streptococcus pneumoniae evolving: impact of antibiotics, vaccines and day care centers*. Evolution in Health and Disease International Workshop. Oeiras, Portugal. September 22-26, 2008.

## **Publications in Proceedings of international conferences**

1. **T. ALPUIM AND MARCO COSTA**, *State- Space Modelling to Increase the Accuracy of Weather Radar Estimation of Mean Area Precipitation*. Proceedings of the International Workshop on Spatio-Temporal Modelling - METMA4, pages 177-181, Sep 2008, Alghero, Italy, (2008).
2. **L. CONSIGLIERI**, *Frictional work on stationary thermal viscous incompressible flows*, Theoretical and Experimental Aspects on Fluid Mechanics, "Proceedings of the 5th WSEAS International Conference on Fluid Mechanics", January 25-27, 2008, Acapulco, Mexico, Eds. S.H. Sohrab, H.J. Catrakis, F.K. Benra, Mathematics and Computers in Science and Engineering, WSEAS Press (2008), 36--40.
3. **ARMINDA GONÇALVES AND MARCO COSTA**, *A State-Space and Clustering Approach for Analysing the Water Quality in a River Basin*. Proceedings of the International Workshop on Spatio-Temporal Modelling - METMA4, pages 237-240, Sep 2008, Alghero, Italy, (2008).
4. **M. J. EDMUNDO**, "Covering definable manifolds by open definable subsets" In: Logic Colloquium '05, Lecture Notes in Logic 28 (2008) (ed., C. Dimitracopoulos et al.) Cambridge University Press.
5. **PANTELIS E. ELEFThERIOU, COSTAS KOUTRAS AND CHRISTOS**, Notions of Bisimulation for Heyting-Valued Modal Languages, in A. Beckman, C. Dimitracopoulos, B. Loewe (eds): Logic and Theory of Algorithms, Proceedings of Computability in Europe 2008 (CiE 2008), Athens University Press (2008), pp. 117-126.
6. **M. JOÃO OLIVEIRA**, Intersection local times of fractional Brownian motions with  $H^{\text{in}}(0,1)$  as generalized white noise functionals (with C. Drumond and J. L. Silva). In C. C. Bernido and M. V. Bernido (Eds.), 5th Jagna International Workshop "Stochastic and Quantum Dynamics of Biomolecular Systems", Jagna, Bohol (Philippines), 3--5 January 2008. AIP Conf. Proc. 1021 (1), 34--45.
7. **GUILLAUME BONFANTE, REINHARD KAHLE, JEAN-YVES MARION AND ISABEL OITAVEM**, *Recursion schemata for  $NCK$* , Lecture Notes in Computer Science, 5213, (2008), 49-63.
8. **LUIS SARAIVA**, The Jesuit mathematicians of the Portuguese Assistancy and the Portuguese historians of mathematics (1819-1940), Proceedings of the International Meeting "History of Mathematical Sciences: Portugal and East Asia III. The Jesuits, the Padroado and East Asian Science (1552-1773)", World Scientific, London/Singapore, 2008, pp. 1-31.

## SCIENTIFIC MEETINGS AND SEMINARS

### Organization of Seminars and Conferences

1. **M. J. EDMUNDO**, Seminários de Teoria de Modelos do CMAF (Centro de Matemática e Aplicações Fundamentais) , Universidade de Lisboa, Portugal. 10/2008, (organizer).
2. **M. J. EDMUNDO**, Seminários de Lógica Matemática do CMAF (Centro de Matemática e Aplicações Fundamentais) , Universidade de Lisboa, Portugal, (Co-organizer with colleagues).
3. **PANTELIS E. ELEFThERIOU**, MODNET BARCELONA CONFERENCE, UNIVERSITY OF BARCELONA, NOVEMBER 3-7, 2008  
[HTTP://WWW.UB.ES/MODELTHEORY/MODNET/](http://www.ub.es/modeltheory/modnet/)
1. 1st ICTI Workshop CMU-Portugal Program in Applied Mathematics, Lisboa, September 11, 2008, organizing committee: **A.C. BARROSO** (Universidade de Lisboa), Irene Fonseca (Carnegie Mellon University), José Matias (IST/UTL) and Luísa Mascarenhas (FCT-UNL).
4. **I. OITAVEM**, Implicit characterization: from P to NP, Institut für Informatik, University of Göttingen, Germany, February 6, 2008.
5. **I. OITAVEM**, A recursion-theoretic approach to NP, Workshop on implicit computational complexity, Université Paris 13, France, February 11, 2008.
6. **I. OITAVEM**, Árvores e esquemas de recursão, ENSPM 2008, ISEC, Coimbra, Portugal, June 27, 2008.
7. IV International Conference on Mathematical Fluid Mechanics and Applications, Évora, June 26-28, 2008. Organizing Committee: F. CARAPAU, P. CORREIA, M. PIRES (U. Évora) and **HERMENEGILDO BORGES DE OLIVEIRA** (U. Algarve):  
<http://www.mfma.uevora.pt/ivconference.htm>
8. **R. RAMOS**, Third Workshop on Statistics, Mathematics and Computation and First Portuguese-Polish Workshop on Biometry Universidade Aberta, Lisbon, 21-22 July 2008: <http://www.univ-ab.pt/wemc2008/program.html>
9. International Conference “History of Mathematical Sciences: Portugal and the East IV: Portugal and East Asia IV -Europe and China: Science and Arts in 17-18 Centuries”, Beijing, People’s Republic of China, November 5-8, 2008. Organizers: **LUIS SARAIVA** (CMAF/U. of Lisbon), Catherine Jami (CNRS, Paris), Liu Dun (Institute for History of Natural Science, Beijing), and Luís Filipe Barreto (CCCM, Lisbon).
10. **LUIS TRABUCHO**, co-organizador do Congresso Internacional: Calculus of Variations and its Applications: from Engineering to Economy, CVA2008, Caparica, Setembro 2008.